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WILLIS L. MOORE, Chief U. S. Weather Bureau.

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Climatological Data for September, 1910. DISTRICT No. 1. NORTH ATLANTIC STATES.

WILFORD M. WILSON, District Editor.

GENERAL SUMMARY.

While the month of September, 1910, was warmer than usual, except in New England, and drier than the average September, except in New York and Pennsylvania, the departures from the normal both in temperature and precipitation were well within the range of previous years. There were no storms of unusual severity and the month fully sustained its reputation for being one of the pleasantest months of the year in this latitude. The only disagreeable period of considerable duration occurred with the storm that appeared central over Maryland and Delaware on the morning of the 1st, causing heavy and, at some places, excessive rains, especially in the southern part of the district on the 1st and 2d. The rain area moved slowly northward and covered New York and New England during the 3d and 4th, but the precipitation from this storm was generally much lighter in the northern than in the southern and central parts of the district. This storm, which brought cloudy, disagreeable weather for several days, was practically the only general, widespread storm of the month, and in many sections of the central and southern parts of the district gave more than half the total amount of rain for the entire month. The precipitation for the remainder of the month was light and and scattered, and the rather unfavorable distribution in point of time caused general complaint of short pasturage, and in many sections a serious shortage in the water supply for cities and towns as well as for agricultural purposes. The dry weather was particularly serious in parts of Maryland and Virginia. The available water supply for the city of Baltimore became so much reduced during the latter part of the month that it was necessary to practise the most rigid economy in its use, while similar conditions existed at Annapolis, Frederick, and other places in that section.

The temperature conditions were not exceptional. A decidedly warm period occurred about the middle of the first decade, when temperatures from 92° to 101° were registered in the various sections of the district, except New England where the extreme temperature was 85°. Freezing temperatures were recorded in New England, New York, Pennsylvania, New Jersey, and West Virginia.

TEMPERATURE.

The average temperature for the district was 65.9°, which is about 1.7° above the normal and about 3° above that of September last year. With the exception of New England, where normal temperatures prevailed, the temperature averaged above normal over the entire district, the departures ranging from 0.5° in New York to 2.2° in Delaware and Maryland. It is, perhaps, worthy of note that the temperature conditions of the current month were exactly the reverse of those that obtained during September of last year when the northern part of the district was warmer and the southern part colder than usual. For the most part, the temperature for the month was unusually equable and agreeable with only one warm period worthy of note and that of very short duration.

Moderate temperatures prevailed during the first few days of the month, but the presence of an area of low pressure over the upper Lakes on the morning of the 6th, and its rapid movement down the St. Lawrence Valley during the succeeding 24 hours, caused strong southerly winds with a rapid rise in temperature over the entire district during the day. Maximum temperatures of 90° or above were general, except in New England and central and northern New York, while in the more southerly parts of the district temperatures of 95° or above were not uncommon. The extreme temperature recorded in the district was 101° at Lincoln, Va.

There were several moderately cool periods during the month, but none of sufficiently marked intensity to affect the conditions over the entire district, the lowest temperature of the month being recorded in New England on the 19th, in New York on the 10th and 22d, in Pennsylvania on the 15th, in New Jersey on the 30th, in Maryland and Delaware on the 29th, and in Virginia and West Virginia on the 17th.

During the second and third decades light frosts were general on several dates, except in Delaware, Maryland, and Virginia, but with little or no damage.

PRECIPITATION.

The average precipitation for the district was 2.63 inches, which is about 0.74 inch below the September normal. The distribution was very uneven, both geographically and in point of time. More than the usual amount of rain fell in New York and Pennsylvania, but for the remainder of the district the deficiency was marked. In Delaware, Maryland, and Virginia and in parts of Pennsylvania and New Jersey considerably less than one-half the usual amount occurred. Under ordinary conditions a deficiency of 50 per cent in the monthly rainfall might not produce serious results, but in this instance by far the greater portion of the total rainfall of the month occurred with a single storm on the 1st and 2d. At Baltimore 1.53 inch of rain fell in 36 minutes during the afternoon of the 1st, while the total rainfall for the remainder of the month amounted to only 0.55 inch. This is characteristic of the conditions with respect to rainfall that obtained throughout the southern part of the district during the month, except that some localities received no rain at all, in excess of a trace, after the 2d or 3d and many received practically none after the 6th. Although in many places the rains were heavy but of short duration, the soil at that time was so dry that only a comparatively small amount of water found its way into the streams and accomplished little toward replenishing the water supply for towns and cities.

RIVER CONDITIONS.

Owing to the general deficiency in rainfall the rivers remained at low stages throughout the month in nearly all parts of the district, and the changes that occurred were unusually small. The Mohawk River and the streams of the upper Hudson basin, however, showed considerable variation with comparatively high stages during much of the month, especially from the 6th to the 9th and from the 28th to the 30th, following periods of heavy rain that occurred over that section. At Little Falls, N. Y., on the 29th, the Mohawk River rose to within 1.1 foot of the flood stage.

SUNSHINE.

The average percentage of possible sunshine for the district was about 58, or nearly equal to that for the preceding month. The highest percentages were recorded at stations on the coast between Rhode Island and Delaware, and the lowest at inland stations in the northern part of the district. There was an average of 9 days with 80 per cent or more of sunshine and of 7 days with 20 per cent or less. The total hours of sunshine for the month averaged 244 and ranged from 164 at Hartford, Conn., to 272 at New York City.

DRY FARMING IN THE EAST.

Prof. L. H. Bailey, Dean of the New York State College of Agriculture, in writing to Mr. John T. Burns, Secretary and Treasurer of the Dry-Farming Congress that met recently at Spokane, Wash., makes some interesting and important suggestions on the application of dry-farming methods to agriculture in the more humid regions of the East. He says:

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d n I am convinced that the subject of dry farming has direct application to eastern as well as western conditions. Of course, the movement is necessary and therefore worth while in its western application alone, and in its bearing on the welfare of those regions it should appeal to all the people; but it also has a bearing on agriculture in the entire country, such as our people do not yet understand.

We habitually associate "dry farming" with dry regions; but the conservation of water lies also at the foundation of agriculture in most humid regions as well as in semiarid regions, for the crop in humid regions is very generally determined by the "pinch" of the dry spell or drought. As the strength of a wall is measured by its weakest course, so is the crop-producing power of the year determined, under prevailing farming methods, by the poorest or least effective growing month.

Farmers in the semiarid regions are compelled to save the rainfall, and they prepare a definite program of conservation, making this program a part of their reckoning. But the farmer in humid regions usually makes little or no allowance or reckoning for drought, and when it comes he is caught; and yet the drought and not the rainfall determines his crops. We shall never have a good agriculture until the farmer prepares for dry times and drought

of their reckoning. But the farmer in humid regions usually makes little or no allowance or reckoning for drought, and when it comes he is caught; and yet the drought and not the rainfall determines his crops. We shall never have a good agriculture until the farmer prepares for dry times and drought just as consciously as he prepares for winter. The "dry spell" of summer is usually considered to be a calamity; it is probable that a properly regulated system of husbandry would make such spells to be advantageous.

The annual precipitation at Ithaca, in central New York, is approximately 33 inches; yet there is record of a year with a rainfall of only 21.20 inches. The average, recorded yearly rainfall for the State of New York ranges from about 51 inches down to about 28 inches, and if we exclude Long Island, with its more uniform precipitation, the minimum becomes about 26.50 inches, or approaching closely to dry-farming conditions. There are parts of the State in which the mean precipitation over a series of years is under 23 inches. I have before me the records for 48 years of one station in western New York, with an annual average of 27.52 inches, in which there are 4 years with a total precipitation of less than 20 inches (one year only 16.44 inches) and 2 years with a total of 20.02 and 20.61. Were it not for other aids than rainfall (a low evaporation due to proximity to large bodies of water, and moisture held in the soil from other years), these particular years would have been semiarid at that place; for a region is usually held to be semiarid if its precipitation is less than 20 inches.

It is the precipitation of the growing months, however, that largely determines the crop. In the dry sections just mentioned, there were 26 years of the 48 in which the monthly rainfall was less than 1.50 inch (which is very dry) in one or more of the months of May, June, July, August; and there were 10 other years in which the rainfall in one or more of these months was between 1.50 and 2.00 inches, which usually ind

ence of droughty conditions, for several factors are involved, but they are the best measures that we have on record. It is certainly not too much to say that, in most parts of the humid regions, the farmer may expect conditions of dryness about every other year sufficiently marked greatly to reduce his yields. We are accustomed to hear estimates of loss occasioned by injurious insects and by diseases of animals and plants; but it is probable that the loss from "dry spells" greatly exceeds any or all other causes. Humid regions are likely to suffer most from dry weather.

Nor is it merely a question of carrying the crop over the recognized dry spells. A sufficient supply of soil moisture continuously throughout the year is a fundamental necessity of crop growing. The acre production must be made to increase, which means that we must be increasingly careful of our water waste.

of our water waste.

In the hard-land hilly regions of the East, it is not only a question of the actual quantity of water falling on the earth, but quite as much the loss of water by rapid run-off. Within a few minutes after a heavy rain, the streams are choked and the lowlands fill up and perhaps overflow. The water is lost to one place and is accumulated in too great quantities in another place. The violent run-off is like water running off a roof. It tears the land, moves stones and other heavy objects, and carries away immense stores of fertility. Within two days after a heavy rain, the sides and tops of hills may be suffering from dry soil. I see as much disaster from drought in New York as I see in the less humid regions of the Middle West.

drought in New York as I see in the less humid regions of the Middle West.

The discussions of the dry-farming congress, therefore, should have significance to the entire country. We shall find the principles of dry farming to be increasingly applicable to the East. In fact these principles have been worked out in humid countries. But the present recognized methods of dry farming are not sufficient for hilly regions, and something further must be developed. The accepted practises of dry farming are associated with two main ideas: such preparation and tillage of the land as will catch and hold the rainfall; the perfection of such a cropping scheme as will make the most of the situation. These are fundamental to all water-saving practises. To these may be added the supplying of water, other than rainfall, by means of irrigation. But beyond all this, we must in time devise some mode of storing the water of rainfall on the hills of individual farms.

Many of the hills can not be tilled with profit, certainly not by dry-farming methods; nor is it advisable to cover all of them with forest or even with other cover,—and even a crop cover could not hold the water. A method or "system" of storing water on steep hillsides was perfected and even patented by Asahel N. Cole, of southwestern New York, in 1884, and it was made the basis of his book called the "New Agriculture." It consisted of a series of ditch reservoirs running along the face of the hill, connecting with each other, and filled with stones and covered with brush and earth. These trenches were to catch the run-off and hold it against the time of drought. Whether such a system is practicable I do not know; but it is suggestive of a solution, perhaps in simpler and less expensive form, of a very real problem in hilly regions. It is a problem of farm engineering. We must make the most of our hills, in time.

Irrigation and dry farming are complementary processes in the problem of saving and utilizing water. Dry-farming practises are essential to the

most of our fills, in time.

Irrigation and dry farming are complementary processes in the problem of saving and utilizing water. Dry-farming practises are essential to the best results after irrigation water is secured. Irrigation will certainly come in the East; but it is first necessary to save and utilize the water that falls on

Table 1.—Climatological data for September, 1910. District No. 1, North Atlantic States.

			yrs.		perature,	-			-	-	1	pitation	-		days,		Sky	-	tion.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy of 101 inch or mo	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevalling wind direction.	Observers.
Maine. Bar Harbor	. York	778	85	57.6 59.3	+ 0.5	75 84 74	21	37 31	23 23	42	1.12	- 2.56 - 0.21	0. 40 1. 38	0.0	7 8	14 10	6 12	10 8	sw.	Wm. Miller. T. H. West.
Eastport	. Washington	90 450	25	55.6 57.0 58.2 58.2 59.4	+ 0.4 + 0.5 + 0.1	74 78 76 81 81	4 4	45 34 35 31 34	23 23 23 23 23	32	1.84 2.37 2.04 2.30 2.58	- 1.13 - 1.09 - 1.18	0, 60 0, 91 0, 70 0, 71 1, 03	0, 0 0, 0 0, 0 0, 0 0, 0	11 6 12 11	9 12 11 15	7 3 10 5	14 15 9 10	s. s. nw.	U. S. Weather Bureau. S. P. Sutton. Edward F. Parker. State Normal School.
Gardiner	Aroostook	1,000	6 8 36	53. 6 53. 6 60. 2		71 73 83	4 3 4	31 32 38	23	36	2. 77 0. 85 2. 68	- 0, 88 - 0, 85	1. 07 0. 50 0. 92	0.0	12 3 12	26 10	2 8	2 12	ne.	Samuel D. Soule. U. S. Weather Bureau. Bangor & Aroostook R. R. Union Water Power Co.
Madison	Penobscot Cumberland	257 386 450 129	7 7 17 41	56.3 55.8 60.2 57.9	+ 0.4	77 79 83 80	5† 17 4 5	32 31 35 31	23 30 23 23	40	2.95 2.61 4.15	+ 0.21 - 0.76	1.40 1.35 1.42 1.12	0. 0 0. 0 0. 0 0. 0	10 7 11 8	19 9 10 6	7 14 12	9 14 6 12	nw. nw. sw. ne.	Wm. Jardine. H. S. Ferguson. G. E. Chadbourne. Agricultural Exp. Station.
Patten	Cumberland	550	8 39 0 17	53.4 58.6 52.3 57.4	- 1.0 - 0.4	75 79 76 75	5 18 12 4†	28 40 26 36 29	30 23 19 23 23		4:63 2.89 2.75 2.94	- 0.31 - 0.21	2.01 0.80 1.70 1.18	0.0 0.0 0.0 0.0	6 12 11 9 7	10 i 9 17 17	10 5 8	5 t 11 8 5 7	n. n. n. nw.	Bangor & Aroostook R. R. U. S. Weather Bureau. San Lorenzo Merriman. Chas. A. Mixer.
New Hampshire.	Cheshire	1. 120	15 6 0	57.8 58.0 56.1	*******	78 75	4 4	37 36	221		2. 51 2. 67 3. 44	*******	0. 80 0. 62 1. 78	0.0	14 9	11 17 16	12 5 6	8	W. BW. DW.	Hollingsw'th & Whitney Co. Frank Dewing. N. H. State Sanatorium.
Benton Benton Bethicker Concord Durham Franklin Grafton Hanover Keene	Stafford Merrimack Grafton do Cheshire	88 440 863 603 506	18 50 15 11 24 76 25 25	55. 9 59. 1 59. 0 59. 7 56. 6 58. 8 60. 0 61. 8	- 0.3	75 83 83 84 80 84 84	1 4 4 13 4† 4	31 33 31 34 27 33 30 35 29 33	23 23 23 23 23 23 23 23 23 23 23	36 38 43 37 41 37 40 37	3.06 2.76 4.56 3.92 3.66 4.31	+ 0.07 - 0.15 - 1.60 + 0.88 + 0.30 - 1.31	1. 18 1. 15 1. 25 1. 73 1. 15 1. 07 1. 35 0. 78	0.0 0.0 0.0 0.0 0.0 0.0 0.0	10 13 7 12 12 12 12 11 10	17 9 17 14 13 8 14 14	5 12 1 9 9 10 7	8 9 12 7 8 12 9 9	nw. nw. se. nw. se. nw. se.	Benjamin Tucker. U. S. Weather Bureau. Agricultural Exp. Station. Dr. C. P. Webster. Perley R. Kimball. Dartmouth College. Samuel Wadsworth.
Newton	Rockingham	500	22 22	58. 4 57. 6	- 1.7 + 0.2	84 81 78	4† 4† 13	29 33	23 23	41 34	1.83 5.08	- 1.76 + 1.54	0.64	0.0	8	10 13*	15 2ª		se. w.	Jackson Company. W. C. Gale. Mrs. Hattie G. Trow.
Bloomfield	Windsor. Orange Windham Bennington Caledonia	830 1,000 980	3 7 15 25 11 17 18	55. 2 58. 4 55. 7 55. 7 56. 5 57. 6 56. 8		75 83 79 81 75 77 78	41 4 4 13 5† 8 4†	31 28 28 28 32 33 29	23 23 23 26 23 23 21	38 43 38 43 31 38 42	4. 92 4. 35 4. 55	+ 2.19 + 1.26 + 1.30 + 2.22	1. 10 1. 21 1. 40 1. 75 0. 70 1. 64 1. 05	0, 0 0, 0 0, 0 0, 0 0, 0 0, 0 0, 0	13 14 9 13 12 14 8	14 19 13 16 11 12	6 4 5 9 9 5 4	10 7 12 5 10 13 15	s. nw. n. ne. sw. n.	Lyman Falls L. and P. Co. Miss M. A. Kingsbury. W. F. Dewey. Miss Martha French. N. M. Canfield. Fairbanks Museum. John S. Eaton.
Massachusetts. Amherst Blue Hill Boston Chestnut Hill Clinton Concord	Norfolk	640 124	21 26 40 30 14 20	61.7 61.2 62.8 63.4 60.3 59.7	+ 1.5 + 0.2 + 0.1 + 0.5	82 80 82 84 80 82	13 7† 7 13 13 13	34 44 47 37 40 31	23 19† 19 30 15† 30	26 37 32 39	2, 29 2, 14 2, 65 2, 98 2, 97	- 0.67 - 2.21 - 1.05 - 0.62	0.79 0.69 0.58 0.69 0.70 0.78	0. 0 0. 0 0. 0 0. 0 0. 0	11 13 11 8 12 14	20 12 9 18 17 10	3 7 9 1 2 11	12 11 11 9	sw. s. sw.	Agricultural Exp. Station. Blue Hill Observatory. U. S. Weather Bureau. Metropolitan Water Board. Do. Fred. A. Tower. C. V. S. Remington.
Fall River. Fitchburg. Framingham Hyannis. Lawrenes Lowell Middleboro Monson. Nantucket	Worcester. Middlesex. Barnstable. Essex Middlesex. Plymouth Hampden. Nantueket.	51 100 53 420	44 27 30 19 26 25 24 26 26 24	63. 0 62. 0 62. 7 61. 1 61. 4 63. 7 60. 0 60. 1 62. 2	- 0.9 + 0.0 + 0.7 - 3.5 - 0.4 + 1.7 - 0.9 - 0.3 - 0.6	79 83 82 79 82 83 82 79 80	7 13 13 7 4 7† 7 13†	47 36 32 42 37 37 30 33 49	12† 23 30 29† 23 23† 30 23 30	35 38 22 33 34 40 34	3. 01 2. 57 1. 82 1. 83 2. 04 2. 00	- 1.26 - 0.68 - 0.56 - 0.68 - 1.55 - 1.32 - 1.99 - 0.77 - 2.12	2. 00 0. 80 0. 72 1. 06 0. 71 0. 76 1. 57 0. 75 0. 29	0. 0 0. 0 0. 0 0. 0 0. 0 0. 0 0. 0 0. 0	8 11 9 10 10 9 9 9	7 15 12 6 5 18 10	19 6 11 20 11 4 11	9 7 4 14 8	nw. e. nw. pw.	C. V. S. Remington. Dr. A. P. Mason. Metropolitan Water Board. C. F. Sleeper. Easex Company. Prop's Locks and Canals. A. R. Gurney. Dr. G. E. Fuller. U. S. Weather Bureau.
New Bedford Norfolk Northampton Plymouth Provincetown	Bristol	88 244 205	98 7 2 25 25 23	60. 0 59. 7	- 2.2	80 84 82 78 80 78	7 7 4† 8 5 7	45 28 34 40 47 43	30 30 22† 30	21 42 44 27 20	1. 53 2. 21 3. 36 1. 00	- 2.01	1.04 0.83 0.90 0.27	0.0 0.0 0.0 0.0	5 9 9 8 3 8	17 19 20 18 18	1 4 4 5 0 10	7 6 7 12	sw. se. ne. e. ne.	City Engineer. Miss Ruby H. Martyn. D. E. Hoxie. Miss Laura B. Knapp. Gideon Bowley. C. F. B. Bearse.
Rockport Rutland South Egremont Turners Falls Westboro Williamstown	Franklin. Worcester. Berkshire.	1, 160 764 200 298 711	8 8 19 36 19	59. 6 56. 9 61. 8 64. 0 59. 6	+ 1.0 + 1.5 + 0.6 + 1.0	80 78 80 84 77	13 5† 5 13 5†	42 31 40 35 36 41	19 23 23 30 15	32 35 27 37	3. 52 2. 41 3. 19 2. 62	- 0.23 - 0.37 + 2.80 + 1.21	0, 80 0, 56 0, 96 0, 63 1, 57	0. 0 0. 0 0. 0 0. 0 0. 0	8 10 8 10	18	11	8	ne. s. w.	State Sanatorium. Roscoe C. Taft. Turners Falls Co. G. S. Newcomb. Williams College.
Worcester	Newport	250 22	30 24 21 28	62.4 63.6 62.2 61.6 64.0	- 0.5 - 1.5 - 0.8 + 1.3	76 78 82 85	13 7 7 4† 7 7†	50 43 41 41	19 30 30 30 30 30	14 23 31 27	1.21	- 1.79 - 1.06 - 1.19 - 0.98 - 0.51	1. 18 0. 42 2. 10 1. 45 1. 17	0.0 0.0 0.0 0.0	8 8 11 11	17 13 15 18 11	5 10 8 6 9	8 7 7 6	ne. ne. ne.	G. W. Swan. U. S. Weather Bureau. N. G. Herreshoff. Nathaniel Helme. U. S. Weather Bureau.
Providence	Providence Fairfield Hartford New London	20 900 370	6 17 49 24	62. 2 66. 1 59. 8 61. 4	- 1.0 - 0.7 - 0.8	80 85 78 81	7† 4† 26	41 41 34 34	23 23 23	37 34	1.99	+ 0.47 - 0.37	1.43 0.79 1.88 1.58	0.0 0.0 0.0 0.0	8 9 9	11 15 11	15 4 10	4	n. s. nw.	Do. William Jennings. G. J. Case. S. P. Willard.
Colchester Cream Hill Danielson Hartford Haveloyville New Haven New London North Grosvenordale Norwalk Outhington torre Coluntown	Litchfield Windham Hartford. Fairfield New Haven. New London Windham Fairfield Hartford Tolland New London	300 159 600 107 47 400 116 140	14 8 6 12 123 40 20 20 41 22 25 35	62. 4 60. 9 63. 5 62. 6 64. 5 64. 2 60. 4 64. 4 62. 2 61. 9 60. 6	+ 1.1 + 1.8 - 0.1 + 0.6 + 0.8 - 1.0 + 1.9 + 0.2 + 1.0 - 0.6	80 81 81 82 83 82 82 84 80	13 9 5† 5† 5† 9 4 7 5 5† 26 26	41 32 38 35 43 40 33	15† 30 23 23 23 23 30 29 23 23 23 23 23 23	36 36 31 35 25 29 39 39 39 38 40	4. 05 4. 02 3. 41 2. 17 1. 83 2. 21 1. 79 1. 42 1. 20 4. 66 2. 04	- 0, 47 - 0, 09 - 2, 79 - 1, 96 - 1, 17 - 1, 04 - 1, 86 - 1, 84 + 1, 21 - 1, 37	1. 98 1. 59 1. 61 0. 52 0. 57 0. 71 0. 48 0. 52 0. 40 2. 84 1. 30	0. 0 0. 0 0. 0 0. 0 0. 0 0. 0 0. 0 0. 0	8 12 8 9 9 10 5 6 5 7	16 11 12 14 18	5 9 12 4 13 13 13 9 9 10 2 4	10 3 11 10 6 5 7 3 10 4	s. s. w. n. ne. ne. sw.	C. L. Gold. F. E. Bitgood. U. S. Weather Bureau. Edson N. Hawley. U. S. Weather Bureau. Thos. C. Dillon. Grosvenor Dale Co. Geo. C. Comstock. Luman Andrews. Agricultural Exp. Station. F. S. Bitgood. N. J. Welton.
Waterbury New York. Addison Albany Alfred Amsterdam Athens Saliston Lake	New Haven	1,000	20 89 15 6 8	64. 6 64. 1 62. 8 59. 8 61. 0 63. 5 60. 2	+ 1.4 + 2.5 + 0.5 0.0	87 84 81 86 90 84	5† 6 6 6 6 6	35	15 23 29 23 23	41 29 38 36 31	4.73	- 1.94 - 0.03 - 0.01	0.68 1.01 1.37 0.94 1.10 0.48 0.90	0.0	10 10 9 12	14 13 17 12 13	7 9 5 9 6	8 8	sw.	H. R. Ainsworth. U. S. Weather Bureau. F. S. Place. Emery Elwood. E. C. Brooks. Geo. R. Schauber.

Table 1.—Climatological data for September, 1910. District No. 1—Continued.

	1		E	Tem	perature	, in de	egree	Fahr	renheit	t.	Prec	ipitation	in in	ches.	days.	1	Sky.		tion.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest dany	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy of .01 inch or more	Number of clear days,	Number of part- ly cloudy days.	Number of cloudy days.	Prevalling wind	Observers.
New York—Cont'd.	Westchester	450	19	67.2	+ 3.9	91	6	43		41	2.06	- 2.11	0.54	0.0	10	21	7	2		Dr. L. Rosenberg.
inghamton	Broome	875	19	61. 2 59. 8	$+1.2 \\ +0.2$	83 82	6	38 35		29 30	4.56	+ 1.79	1.03 0.88	0.0	11	11 8	6	12 16	ne. nw.	U. S. Weather Bureau L. W. Griswold.
ouckvilleoyds Corners	Putnam	560	28					*****			2.37	- 2.21			10		****	11		. Thomas Manning.
armel	do	500	18	63.4	+ 0.1	87 85	6	39 36		35 32	2.37	- 2.42	1.45	0.0	10 16	15	10	11 8	ne.	Do. Morton R. Tank.
hatham	Columbia	1, 250		58.8	+ 0.5	80	5	34		32	6.82	+ 3.40	1.48	0.0	11	11	13	6	8.	Morton R. Tank. Elizabeth C. Keese.
orinth	Saratoga	542	8	62.8	+ 4.9	81	5+	38	15	33	5.55 4.99	+ 1.57	1.10	0.0	10	14	4	12	nw.	A. M. Hollister. F. G. Baker.
ortlandutchogue	Suffolk	32	33	65.4	- 0.3	83	51	43	23	30	1.33	- 2.76	0.82	0.0	5 12	15	13	11	sw.	Wm. A. Fleet B. D. Crandall.
e Ruyter	Madison	1,300	7 20	61.4	******	83	6	35	15	39	8.31	+ 0.26	1.55	0.0	10	10			8.	H. Taber.
aston	Chemung	863	31	64.2	+ 1.4	88	6	37	15	36	4.46	+ 0.26 + 1.64	1.00	0.0	11	10	7	13	nw.	Gerity Bros. C. E. Wing.
ort Hunter	Montgomery	280 316	6	62.6		82	6	39	23	32	6.30	*******	1.38	0.0	13	14	7	9	w.	Abram Devendorf.
lens Falls	do	340	19	60.7	+ 0.5	83	4	34	23	38	5. 12	+ 1.50	1.36	0.0	12 12	13	5 14	12	w.	Prof. C. L. Wliliams. W. L. McLean.
loversville	Fulton	850 314	18 12	58. 9 59. 4	-0.2 -2.4	81 80	6	31 34	23 23 23	36 33	6.41	+ 2.84 + 2.31	1.48	0.0	11	14	6	10	ne.	S. E. Darrow.
reenfield Center reenwich	Washington	425	13	62.6	+ 1.2	85	12	36	23	37	4. 15	+ 0.24	0.70	0.0	15	10	16	4	w.	Homer J. Whiteomb. Kelsey H. Kelly.
riffin Corners	Delaware	2, 260	10			*****		*****	****	***	3.35	+ 0.63	0.90	0.0	11			****	*****	. W. G. Collins.
omer	Cortland		2	59.6		81	6	35	15	33	4.86		0.91 0.75	0.0	13 11	14	7	9	nw.	Charles C. Mortimer. Sanford L. Cluett.
loosick Falls	Rensselaer	1. 705	11	55.8	- 1.4	79	12	28		40		+ 0.94	0.90	0.0	11	11	10	9	w.	Leater Severie
effersonville	Sullivan	1, 240	7	61.5	******	87	6	34	21	42			1.67	0.0	12	13	11	6	sw.	Chas. Wilfert, Jr. Willet Lawrence.
ake Pleasant	- Hamilton	2 300	28	60. 1	+ 2.7	72 82	61	31 38	22	34	4.54	+ 0.82 + 1.80	1.83	0.0	8	17	2 7	11	80.	Dr. H. M. King. O. J. Dempster.
ibertyittle Falls	Sullivan	924	12	59. 9 60. 6	- 0.2	83 85	6	36 40	22 10†	34 e2	5. 19	+1.80 +0.85	0.93	0.0	11	13	4	10	W.	O. J. Dempster.
ohonk Lake		1, 240	14		- 0.4	80	6	28	22	40	6.45		1. 15	0.0	11	5	14	11	W.	Albert K. Smiley. Theodore C. Remond
ount Hope	Westchester	200		64.0	- 0.2	92	6	38	23	41	2.10	- 1.84 + 1.00	1. 10 0. 97	0.0	3 12	12	12	6		Wm. A. Cornelius. M. D. Clinton.
ewark Valley	Chenango		23								5.77		1.06	0.0	10	10	5 6 3	14	aw.	Roger Greene.
ew Lisbon	Otsego	1 234	20 85	57.9	+ 0.7	84 90	6	30 54		37 23	5. 45 1. 43	+1.73 -2.16	1.47	0.0	13	11 10	13	16	n. nw.	G. A. Yates. U. S. Weather Bureau
ew York City	New York	1,002	2	68.4 57.5	+ 1.9	78	6	33		35	4.11		1.36	0.0	8	10	8	12	w.	W. G. Kenwell.
orthville	Fulton	742	8	61.20			6	36	23	330	3.99 4.64		1. 22 1. 53	0.0	8				*****	P. C. Pickard. P. L. Clark.
orwichneonta	Chenango Otsego	1, 112	16	62.8	+ 1.3	87	6	35	23	35	4.48	+ 0.98	0.92	0,0	11	13	8 7	9	sw.	H. W. Lee.
xford	Chenango	916	45 26	61. 5 65. 0	+ 2.8 + 2.1	81 90	6	38 39	23 2	29 32	6.58	+ 0.98 + 2.98 - 1.75	1.18 0.78	0.0	11	11 10	15	12 5	nw.	John P. Davis. Prof. John M. Dolph.
ort Jervis	Orange		13	58.0	- 1.3	74	51	34	10†	36	4.38	+ 0.44	0.80	0.0	12	10	13	7	w.	Joseph Ryan.
alisburyalisbury Mills	Orange	314	11	63.0		91 87	6	38		38		- 2.49	0.56 0.75	0.0	9	17 25	7 3	6 2	w. nw.	H. P. Ramsdell. C. H. Wilmarth.
carsdaleetauket	Westchester	200	25	65. 6	+ 0.8	84	6	47		27	1.19	- 2.42	0.76	0.0	5	19	5	6	e.	Selah B. Strong.
herburne	Chenango		3	65.0		81	9	43	23	25			0.78	0.0	8	15	13	2	se.	E. B. Collins. W. L. Jagger.
outhamptonoutheast Reservoir	Suffolk		15	******							1.77	- 2.48			10	19	9	8		W. L. Jagger. Thomas Manning
outheast Reservoir pier Falls	Saratoga	400	9 7		* ** * * * *	81	4	32	23	37		*******	0.71	0.0	10	13	- 1	8	8W	W. F. Anderson. C. W. Young.
renton Falls	Montgomery	268	7		*******						5.30		1.20	0.0	8					R. S. Marshall.
tica	Oneida	537	44	62.2	******	85	5	34	23	36	5.50 1.19	+ 1.93	1. 12 0. 76	0.0	13	25	2	3	8.	W. E. Young. H. B. Fullerton.
ading River	Suffolk	110	20	63.1	- 0.2	86	6	42	15†	30	3.92	- 0.08	0.72	0.0	13 11	10	17		sw.	H. C. Townsend. John W. Sly. Hon. J. F. Shoemaker
appingers Falls arwick	Orange	538	16 28	62.4	+ 1.0	89	6	32	15	12	2. 12 4. 15	-2.01 + 1.17	0.60	0.0	13			13	8.	Hon. J. F. Shoemaker
est Berne	Albany	946	11	59.8	- 1.0	82	12	32 31	23	40	4.30	+ 1.28	1.31	0.0	13	9 7	20		se. e.	W. J. Haverly.
est Point	Orange	167	10		+ 0.7	90 86	7 6	45 33	23	30 36	2.45 5.57	- 1.29 + 2.20	2.43	0.0	12	12	16	3 2	nw.	W. J. Haverly. Maj. Chas. M. Gandy. A. R. Mott.
Indham						-							1.09	0.0	15					C. W. Billin.
toonaethlehem	Northampton	1, 181	22	66.8	+ 3.8	87 91	6	43 45	17 3	29 25		+ 2.36	2.01	0.0	12	15			w.	Prof. E. C. Roest.
learfield	Clearfield	1, 107	9 1	64.4			61	36 37	15	36	6.74	+ 1.65	2.20	0.0	15	15	7 9	8	W.	Raymond C. Ogden. T. B. Lloyd.
mporiumphrata	Cameron	1.050	22 11 13	63.0 67.0	+0.8 + 0.6	84 85 94 89 92 95 88 91 90 87	6	41	17 3	38	9 38	- 1 19	1.21	0.0	6	19	6	5	W.	W. L. Frants.
verett	Lancaster Bedford	1,080	13	65. 2 67. 3	+ 2.0	89	6 6	40	17†	32		+ 2.04	1.13	0.0	10	9 22	16	3	W.	B. L. Steckman. Prof. A. C. Smedley.
eorge School	Bucks	184	36	68.6	+ 4.3	95	6	43	16†	38	2.26	- 0.91	0.80	0.0	9	13	9		sw.	Col. E. B. Cope. Capt. J. G. Johnson. W. J. Kalbach. U. S. Weather Bureau.
ordon	Schuylkill	804	7 19	64.0	+ 0.4	88	6	36 43	20 3	39	8.42	+ 4.18	1. 15 3. 60	0.0	13	13 21	3	6	e. sw.	W. J. Kalbach.
amburg	Dauphin	361	22 22	68.0	+ 1.8	90	6 6 6 6	50	17 3	26	2.78	- 0.15	1.90	0.0	13	11	8	11	n.	U. S. Weather Bureau.
untingdon	Huntingdon	650	22	66.6	+ 2.1	87 91	6	40 37	15	34		+ 3.15	1.53	0.0	14	12 14	9	7	w. n.	Prof. W. J. Swigart. H. C. Mauk. C. P. Darling. G. W. Hayes, C. E.
yndman	Bedford	1,006	13	63.8	+ 2.4 + 2.9	89	5	33	15 4	44	4.45	+ 1.88	1.00	0.0	8	14		12	80.	C. P. Darling.
banon	Lebanon	458	22 22 7	68. 4 66. 4	+ 2.9	91 86	6	47	15 3	27 35	6. 14 5. 38	+ 3.10 + 1.84	2.00 1.46	0.0	13		12	11	w.	Prof. J. A. Robb.
ock Havenarion	Clinton	640	7	67.8		94	6	40	29 4	101	3.08	*******	1.47	0.0	8	16 15	12	2	w.	Prof. J. A. Robb. Hon. C. B. Hege. F. C. Wintermute.
arion	Carbon	634	21 7	65. 6 64. 8	+ 1.2	89 90	6	40 37	15 3	37		+ 0.35	1.60	0.0	11	9		17	W.	Wellington Smith.
ifflintown	Pike	455	8 7	63. 2	******	92	6	36	23 3	35	3.49		1.25	0.0	15 12	13	14	3	se.	Mrs. Alla Doughty.
ontrose uncy Valley	Susquehanna	1,658	7	61.8	*******	86 84	6	40	14 3	326	5. 27	*******	1.15	0.0	8	17d	04	94	*****	J. R. Beebe. F. W. Buck.
ew Germantown	. Perry	873	7	65.0	+ 0.3	89	6	39	15 3	37	4.37	+ 0.86	1.74	0.0	9 5	16			w. n.	Ed. C. Johnston. U. S. Weather Bureau.
hiladelphia (1)	. Philadelphia	117	40	70. 0 59. 9	+ 2.6	92 82	6	55 34	17 3	37.		- 0.33	1.74	0.0	10				w.	Pocono Lake Ice Co.
eading	Berks	280		68.0	+ 2.3	90	6	43	17 2	34	2.37	- 1.02	1.24	0.0	9	7	12	ii	B.	Eventilin Venger
ranton	Lackawanna	805	10	64.8	+ 2.6 + 1.6	90	6	43 42	17 2 29 3	34	4. 45 5. 66	+ 1.59 + 2.20	1.61	0.0	15	0	21	9	n. se.	J. M. Boyer, C. E.
elinsgroveate College	Snyder	1, 191	37 10 22 22 22 16	63.2	+ 0.3	85	6	41	29 15	34	6.38	+ 3.55	1.60	0.0	13		7		sw.	U. S. Weather Bureau. J. M. Boyer, C. E. Prof. Wm. Frear. Hiram E. Bull, C. E. O. L. White. J. C. Green, D. D. S.
owanda	. Bradford	754 1,327	16	62.9 61.3¢	+ 0.3	86	13	38	15 3 15 4	11=	3.98	+ 2.21 + 1.34	1.89	0.0	12 10s	16 10*	44	9.8	nw.	O. L. White.
ellsboro est Chester	Chester	455	33 55	68. 6	+ 3.4	86 90 85 86 89 93 86	6	50	151 2	29	2.58	- 1.77 + 0.58	1.50	0.0	7	14 16	8 5	8	s. n.	J. C. Green, D. D. S. Henry H. Guise.
New Jersey.	Lycoming	530	20	65. 4	+ 1.4	86	6	41	15	30	3.79	+ 0.55	1.76			-				
bury Park	. Monmouth	22	22 37	68.4	+ 1.5	94	6	51	30 2	24	1.47	- 1.77	1.00	0.0	7 7	14	10		se.	B. H. Obert. U. S. Weather Bureau.
Inntia City	. Atlantic	16	37 20	68.7	+ 1.1 + 1.3	86 93	9	54 47	29 2	20	1.46	- 1.59 - 2.04	1.17	0.0	6	14	9 7		s. nw.	J. H. Eadie.

Table 1 .- Climatological data for September, 1910. District No. 1-Continued.

			E	Tem	perature	, in de	gree	Fah	renbe	nit.	Prec	apitation	, in in	ches.	lays.		Sky		Hon.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy d	Number of	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind	Observers.
New Jersey-Cont'd.	Warren	289	19	65.8	+ 0.7	90	6	42	151	34*	3, 57	- 0.35	1.04	0.0	10	11	9	10		S. J. Hixson.
ergen Point	Hudson	. 37	13	67.6	+ 0.9	93	6	47	23	32	2.03	- 2.50 - 1.74	1. 52	0,0	5 8	13	10	7	nw.	Dr. W. H. Mitchell, Foster Peer,
ridgeton	Cumberland	. 30	29	70.1	+ 1.9	97	6	48	291	35	1.78	- 1.80	0, 95	0.0	3	14	8	8	ne.	H. A. Jorden.
urlington	Burlington	12	26 16			*****	****				1.74	- 2.18 - 1.87	0.86	0.0	5 2	11	11	8	n.	D. S. B. McCoy. J. H. Maskell.
antonape May City	Cape May	. 17	26	69.8	+ 0.8	86	6	53	17	20	2.38	- 0.62	2.01	0.0	8	16	9	5	BC.	U. S. Weather Bureau
harlotteburg	Passale	. 719	18	63.4	+ 1.0	89	6	32	30	46	2.62	- 2.06	0.85	0.0	8 7	13	11	6	se.	G. S. Briggs. M. A. Butler. W. T. Farley.
ayton	Gloucester	. 126	17	68.5	+ 1.8	93	6	46	161		2.87	- 0.82		0.0	4	14	6	10	W.	W. T. Farley.
ollege Farmulver's Lake	Middlesex	. 100	15	67.2	+ 1.0	91	6	42	30	33	3.49	- 0.13	1.34	0.0	11	14	10		se.	G. B. Thrasher. B. E. Riker.
over	Morris	578	26	62.6	0.0	88	6	38	23	38*	2.59	- 1.89	0.91	0.0	10	10	15	5		W. C. Harris.
isabeth	Union	187	31 22	68.0	+ 1.0 + 2.9	91 93	6	47	30	29 37	1.88	- 2.18 - 0.62	2.21	0,0	8	14	8 9		sw.	W. M. Oliver. H. E. Deats.
emingtonaddonfield	Camden	. 75	16	68. 3	+ 2.3	94	6	43	15	32	2.21	- 1.53	1.40	0,0	6	8	12		ne.	C. F. Richardson.
ammontonightstown	Atlantie	80	12 18	67.5	+ 0.9	94	6	41	23	38	2, 70	- 0.99 - 1.63	1.42	0.0	6	12	10		ne.	Orville Bassett. Ernst Wenger.
nlaystown	Mercer	106	24																	Dr. F. C. Price.
dian Mills	Burlington	. 76	21 12	67.8	+ 1.7	96	6	41 50	23 15†	40 28	1.67	- 2.50 - 2.13	0.55 1.29	0.0	6	13 14	11		ne.	James Armstrong. 8. K. Pearson, jr.
akewoodambertville	Ocean	54	8	*****																H. R. Major.
ambertville	Hunterdon	550	24 11	66. 8	+ 0.8	91	6	41 35	23 23	33 38	3.24	- 0.94 - 0.83	2.55 0.80	0.0	11	12 13	10		ne. sw.	W. R. Bowne. W. C. Hursh.
ayton	Passaic	175	7								2.63	*******	0.98	0.0	8					A. Sweetman.
ong Branch	Monmouth	30	8	69.3		93	6	49	30	28	2.44		2.00 1.10	0.0	3	14	11	5	sw.	B. B. Bobbit. C. L. Barker.
oorestown	Burlington	71	48											*****						J. C. Beans.
ewarkew Brunswick	Essex	140	57	68.1	+ 2.2 + 2.2	93 95	6	48	30 15†	33		- 1.56 - 0.26	1.62 2.25	0.0	7 7	10 13	13		se.	Prof. Wm. Wiener. W. T. Woerner.
ewton	Sussex	678	31	65. 4	+ 1.8	90	6	36	23	42a			0.99	0.0		13	9		n.	B. H. Kienbaum.
orthfield	Atlantic	110	39	67.0	+ 0.8	92	6	43	23	35	1.17	- 2.15	0, 59	0.0	3 10	5	19		80.	W. L. Flick. H. A. Probert.
hillipsburg	Warren	196	13	66.7	+ 1.3	92	6	44	171	35	3.97	-2.15 + 0.19	1.62	0.0	10	13	8	9	n.	D. W. Smith
lainfieldleasantville	Union	100	12	67.0	+ 2.6	93	6	43	23	38		- 1.91 - 2.08	1.70	0.0	8 3	8	15	40	ne.	John Neagle. L. Van Gilder.
ompton Plains	Morris	195	8					*****			2.28		0.82	0.0	7					M. S. Taylor.
ivervale	Burlington	68	19		******	*****		*****	****		3, 77	- 0.18	2.50	0.0	6	9	11		se.	Spencer Haines. G. S. M. Holdrum.
omerville	Somerset	76	27	68.0	+ 2.7	94	6	42	30	38	2.71	- 0.95	1.93	0.0	7	12	8	10	e.	P. Hardeastle.
outh Orange	Essex		20	65. 5 64. 8	+ 1.4 + 0.9	90 88	6	44 39	23 23	27 33	1.80	- 2.29 - 1.08	1.20 0.87	0.0	10	14 13	10		ne. sw.	Dr. W. J. Chandler. Prof. W. H. Seeley.
renton	Mercer	60	38	69.9	+ 2.7	95	6	47	23	29	2.50	- 1.44	1.45	0.0	7	11	10	9	nw.	Paul H. Wendel.
uckerton	Ocean	23 118	17 41	67. 2	+ 1.2	96	5†	40	22	32	1.44	- 1.92	0.81	0.0	3	13	9	8	se.	F. R. Austin. Alfred Chalmers.
oodbine	Cape May		19	68. 2	+ 1.9	92	6	44	23	33	1.01	- 3.02	0.99	0.0	3	14	7	9 .		Prof. H. A. Dodge.
West Virginia.	Grant	2,500	8	62.6		83	41	32	17	40	2.24		0.45	0.0	12	9	15	6	w.	Solomon Clark.
urlington	Mineral	875	15	67.2	+ 2.2	92	6	37	17			- 0.53	0.70	0.0	7	7	20		w.	J. W. Vandiver.
ranklinoat City	Pendleton		3	66.7		88	51	40	16	33	1.28		0.42	0.0	6	13	13	4	w.	A. A. Martin. B. D. Hinegardner.
artinsburg	Berkeley	435	19	00.1	+ 2.6	95	6	43	16	37	0.92	- 1.66 - 0.35	0.32	0.0	6	20	6	4	se.	G. W. Van Metre, C. E
oorefield	Hardy	900 824	14	68. 8 68. 0a	+ 2.5 + 1.6	94 95	6	37	16 17	454	2.28	-0.35 + 0.31	0.67	0.0	6	8	22 9h		8. W.	John C. Fisher. John C. Linthicum.
pper Tract	Pendleton		12	67.7	+ 1.2	90	6	38 35	17	43	1.38	- 0.85	0.55	0.0	7	6	16		W.	J. M. Mallow.
Maryland. nnapolis	Anne Arundel	45	32	70.4	+ 0.7	92	5	52	18	29	2.54	- 1.50	1.40	0.0	4	22	4	4	ne.	W. M. Abbott.
achmans Valley	Carroll	880	17	69. 3	+ 4.3	98	6	38	29	40	0, 60	- 3.31	0.28	0.0	5	22	4	4	8.	Elmer E. Yingling.
altimore	Baltimore	115 25	12	71.6	+ 3.0 + 2.4	96 97	6	53 50	17 18	39	1. 24		1.58 0.62	0.0	3	14 22	10		n. ne.	U. S. Weather Bureau. T. E. Keenan.
heltenham	Prince George	230		70.8		93	6	44	17†	36	1.34		0.73	0.0	5	17	7	6	ne.	J. E. Burbank.
hestertown	Kent Washington	80 530	13	70. 1 69. 0	+ 2.4 + 2.5	92 94	6	50 41	17 16		0.94	- 2.83 - 0.46	0.51	0.0	10	20 11	18		s. se.	M. W. Thomas. D. Paul Oswald.
lear Spring	do		10 25 13 13 12	70.8	+ 4.9	94	6	56 50	15†	22	3.54	- 0.46 + 1.18	0.88	0.0	11	10	16	4	sw.	W. W. Frants.
olemanollege Park	Prince George	170	20	71.0	+ 1.9	95 96	6	40	30 16†	45	0.74	- 3.26 - 2.56 + 1.34	0.53	0.0	4	21 18	10		n. se.	J. S. Harris. Prof. H. J. Patterson.
umberland	Allegany	700	36 18		*******						3.97	+ 1.34	1.40	0.0	8			***	e.	J. W. Frants.
arlingtonenton	Caroline	42	18	68.3	+ 2.0 + 0.8	91 93	6	47	17† 30		1.07	- 3.01 - 2.50	0.60	0.0	4	16 23	8 2		8W.	Prof. A. F. Galbreath. H. B. Mason.
ston	Talbot	35	19	69. 1	+ 0.4	90	6	46	30	30	1.44	- 1.79	1.13	0.0	5	20	4	6	sw.	Henry Shreve.
mmiteburg	Frederick	720 450	37 40	69.5	+ 4.0 + 3.5	92 95 95	6	49	17† 30	33	1.72	- 1.80 - 3.31	0.71	0.0	7	16	10 24		W.	Jno. H. Eckenrode, J. H. Curtiss.
ederick	Frederick	275	33	70.0	+ 2.9	95	6	48 43 41 45 45 39	17	33	0.66	- 2.59	0.34	0.0	6	15	9	6	ne.	Honny Troil
ostburg	Allegany	1,929	19	67.0	+ 1.5	87	61	41	10† 17	34	3.36	- 0.75	1.15	0.0	13	11	15		80.	L. B. Abbott. J. W. Bissett.
reat Falls reen Spring Furnace	Washington	450	19 18	69.4	+ 2.3	96 93 96	6	45	15	32	3.02	+ 0.53	1.44	0.0	7	18 17	9	3	W.	E. G. Kinsell.
sedysville	Baltimore	400	6	70.1		96	6	39	16	42			0.55	0.0	7	17	9		8.	J. A. Miller. Martin L. Dobler.
Plata	Charles	190	1	72.0		94	6	46	29	32	2.33		1.21	0.0	3	216	16	60	sw.	Prof. R. H. Lee Reich.
urel	Prince George Frederick	150	16 23	69.4	+ 1.1 + 2.7	95	6	42	18	38		- 2.60 - 1.06	0.50	0.0		11 15	17	2 .		Dr. T. M. Baldwin. J. H. Lawson.
comoke City	Worcester	37	17	71.5	+ 1.2	94 95	6	53 53	171	23	3.46	+ 0.41	1.05	0.0	7	18	5		8.	Hon. R. M. Stevenson.
rto Bello	St. Mary	38	5 17	72.4		95	6	53	171	26	2. 10		1.10	0, 0		22	3 18		ne.	Alpheus Hyatt.
ockville	Somerset	421	3 5	68. 9 70. 24	+ 0.7	91	6	47 51	15†	274	1.94		1. 22 0. 85	0.0	54	144	84	44	ne.	Jas. R. Stewart. Dr. Geo. E. Lewis.
lisbury	Wicomico	23		70.8		93	6	45	18†	38	2.40		1.98	0.0	5	14	13	3 .		W E Downing
natoriumlomons	Frederick	20	19	72.6	+ 0.9	89 94	6	57	18				0.63	0.0	8	20 8	10		W.	Dr. W. M. Garrison. Dr. W. H. Marsh.
dlersville	Queen Anne Montgomery	65	11	70.8	+ 2.3	94 94 92	6	45	18	39	0.88	- 3.60	0.71	0.0	6	18	7	5 1	8.	Jas. E. Higman. L. M. Moores.
koma Park	Carroll	450	12 11		+ 1.6	92 94	6	46 39	17 16†	33	1.00		0. 10	0.0		18 25	10		se.	R. A. Nusbaum
owson	Baltimore	405	2	69. 2		95	6	44	17	36	1. 17	******	0.48	0.0	6	20	4	6 1	se.	C. W. E. Treadwell.
an Bibber	Harford	1,000	13 16	68. 6 67. 9	+ 1.3 + 2.1	91	6 41	43	29	345	1.63	- 2.96	1.03	0.0	3 7	12b	12b	4b s	8.	R. A. Nusbaum. C. W. E. Treadwell. W. Benj. Ford. Prof. O. H. Bruce.
oodstock	Baltimore	392	36	70.8	+ 5.1	93	6						1.18	0.0		21	7	2 8	se.	Rev. A. J. Donlon, S. J.
Delaware.	New Castle	20	8	69.8	1	91	6	51		28		-			-	26	1			

TABLE 1.—Climatological data for September, 1910. District No. 1—Continued.

			E	Tem	perature	, in de	grees	Fahr	enhe	át.	Preci	pitation	, in ir	ches.	day.		Sky.		tlon	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind	Observers.
Delaware—Cont'd. Dover Milford Millsboro Seaford	KentdoSussexdo.	40 20 20 40	22 26 18 17	71. 4 70. 4 68. 6 69. 2	+ 3.6 + 2.3 0.0 + 0.8	96 93 93 90	6 6 6	47 50 46 48	17 30 30 30	38 29 34 28	0, 78 0, 95 0, 29 1, 24	- 3.04	0, 50 0, 38 0, 17 0, 65	0. 0 0. 0 0. 0 0. 0	4 4 5	15 13 21 20	10 12 3 4	5 5 6 6	se. e. ne.	Thos. F. Dunn. C. J. Holzmueller. Rev. L. W. Wells. E. B. Brown.
District of Columbia. Washington	District of Columbia	112	40	71.0	+ 2.9	94	6	48	18	34		- 1.44	1.14	0.0	4	16	7	7	8.	U. S. Weather Bureau.
Culpeper Dale Enterprise Doswell Eastville Fredericksburg Lincoln Mount Weather	Culpeper. Rockingham Hanover Northampton Spottsylvania Loudoun do	1, 350 134 15 100 500	2 30 9 21 9 6	69. 4 68. 1 72. 2° 70. 8 71. 4 71. 4	+ 1.5	93 93 93 86 95 101	6 6 6 6	42 36 51 44 37	18 17 18 18 18	37 42 27 39 48	1.30 2.29 0.78 0.72 1.29 1.30	- 1.39 - 1.09	0. 66 1. 20 0. 57 0. 22 0. 58 0. 33	0.0 0.0 0.0 0.0 0.0	6 2 6 4 6	11 9 3 24 15 10	16 17 3 10 16	3 5 4	se. ne. se.	Col. H. C. Burrows. Rev. L. J. Heatwole. Rich., Fdksbg. & Pot. R. R. Thos. B. Robertson. S. G. Howlson. Dr. Geo. Roberts. U. S. Weather Bureau.
Quantico staunton§ stephens City Varsaw Voodstock	Prince William Augusta Frederick Richmond Shenandoah	16 1,380 710 160 927	13 18 18 18 18	71. 6 69. 2 69. 2 70. 8 ^d 70. 4	+ 1.2 + 0.9 + 0.9 + 2.8	94 90 98 92 98	6 6 6 6	43 40 37 45 39	18 16 17 18 16†	35 36 41 40 48	0.42 0.18	- 2.79 - 2.88 - 2.99 - 1.52	0, 20 0, 33 0, 08 0, 32	0, 0 0, 0 0, 0 0, 0 0, 0	9 3 5 5	13 15 13 11	12 4 15 15	5 11 2 4	nw. sw. s. e. w.	Rich., Fdksbg. & Pot. R. H Ernest Nothnagel. B. T. Argenbright. C. H. Constable. Miss A. G. Miley.

*, *, *, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

* Precipitation included in that of the next measurement.

** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

* Separate dates of falls not recorded.

Data are from standard instruments not supplied by the U. S. Weather Bureau.

| Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

Estimated by observer.

Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

Table 2.—Daily precipitation for September, 1910. District No. 1, North Atlantic States.

Gr. et	Direct barrier														1	Day	of 1	nont	ih.													
Stations.	River basins.	1	3	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	10	20	21	22	23	24	25	26	27	28	29	30	31
Maine.				-																												
ar Harbor	Coast	10		T.	T.	. 40	. 20	. 10	T.	. 15				1. 38 T.	. 05		->->	T.	.07	T.	2.56	01				T.	T.	T	- 15			
ornish	Penobecot	19			.04		. 34 T.	. 65	->>>	.10				T.	. 20	****			***			.01				. 15	****	1.	. 25	****	***	
astport	Coast			.0	1 .13	. 00	.03	.02			. 05				. 28			. 19	.01	T.	. 03					.01	.27		. 26			
llsworth	Coastdo	01			. 18	T.	. 19	. 53	T.		. 05			****	. 90	.01			.04	T.		.01					. 14	T.	.31	T.		
airfield	Kennebetdododo	14		3	3	. 14	. 70	12	****	.02	****			. 65						05						00	- +×+	10	10			***
armington	40	.00		- 10	45	. 23	. 35	. 11	****	.01				. 139	1.03				****	.03	.08	****				.00	. 16	T.	. 11	****		
reen ville	do			. 3	2	. 10	1.07	.02	.08	. 14				.38					T.	. 04	.01					. 13		90	90			
foulton	St. John							. 50		1224																T.	****	. 10			****	
ewiston	Androscoggin	11	.02	.2	9 .09	. 66	. 29																			0.7	OR		9.6	****	****	
fadisonfillinocket				. 10	20	. 10	03	1 35		10	****			1.04 .50 .59 .11	48				****	. 00		* 11		****		. 174	. 05		. 18	****		
orth Bridgeton	Saco			1.4	2	.98	. 25							1.04					. 05	. 05		T.				.02	.02	. 02	. 20			
quossoc	Androscoggin			. 2	5	.08		. 42		.11					1. 12					.03						. 53			. 25			
rono	Panobacot		Jan . h				12. 180		. 10	93				. 50	200		****			4.00		. 30				. 30	2.8.0 2		. 85			
atten	do	38		.43	7 T.	.44	.56	1.02	****	.01	****		****	.59	. 20	1811		T.		.02	.01	.01		****	T.	T.	. 12	****	.07			****
resque Isle	St. John				. 15		T.	1.70	01	.30	T.			.11	.01		.04				. 14	T.				. 23	.02		.04			
umford Falls	Androscoggin			1.24		.48	. 50		* * * *	. 00	4 8 8 8																	* 355	1 400			****
he Forks	Kennebeedo			11		. 75	.74			. 15	****		* * * *	. 45			****	***		06					****	. 20			99	. 60		
Inslow New Hampshire.				-00		.41		****		.04	****	****	****	. 00	**×-		****			. 00	***		***			****		****				
Istead Center	Connecticut	04		. 45	. 27	. 03	. 44	. 01		. 14				. 22	. 62										.06	. 15	. 12	.06	.00			
enton	do	1		. 50		*	1.78							. 63	01			***	***	T.	.05	. 03	***	***	. 20	.11			.00		***	
ethlehem		T	****	- 94	15	75	. 10		****	.00		****		.17	. 01		***		****	.05	***	.04	***	****	45	. 40		. 10	. 84			****
oncord	do	20		. 87	T.	. 35	. 22	.01		. 03				1. 13	.02						***	T.		****	. 12	.06	. 02	.01	. 02			
Ourham	. Coast	35		1.25		. 58	. 13			.09																. 30		.06				
ranklin	. Merrimac			. 33	. 28		1.36	. 03		.04			****		1.73			***	Ť.		***	0.0	***		T	. 20	.04	.08	.08			
rafton		25			T.		. 25		****	.02		T	T	37	0.15	T	T	T	T	***	***	T .	**+	****	06	. 07	. 92	99	.00	****		****
anover	do	31		.47	. 24	.07	1.35	. 10		.30				1.03	. 06		4.			T.		T.	***		T.	. 28	. 09	T.	.07			
ashua	. Merrimac	04		. 64		.78	. 11			T.				T.	. 03					.04					.31	.01		.07	.03			
ewton	do	. T.		- 53		.08	. 64			T.			****		. 67	× 1 4				T	***	70			. 32		.09	. 05	. 00		****	
Varmont	do			. 40	. 23	. 83	. 90	.09																	***	. 43	. 25	. 12	. 07			
loomfield	. Connecticut			. 29	.32	. 12	. 50	.17		.06				. 05	. 15							. 60	. 01			.09		. 01	1. 10			
avendish	do	45		. 45	.11	. 10	. 66	. 01							1.21					20.1	. 01	.08			. 16	. 13	. 15	. 21	.31			
helsea	do	42		. 65		1.10	. 68	. 05						. 55					.05		***	. 20 .			***	. 15		1.40				
acksonville	do	29		70	1.70	. 60	. 60	. 40		99	****			. 60			***	***	.00	.00	.07	99			. 13	. 13	. 10	.07	59	****	****	
Johnsbury	Connecticut	20		. 87	.06	. 25	. 83	.05	****	.09				.02	.40	***	***	***	.02	***	***	.04	***	****		.38	.07	. 15	164			
			***	. 97	1.75 .24 .06 .11 .22	1.05	. 65		. 12	T.				1.85											. 36	.06						
oodstock	do		5 + x	. 65	. 22																						***	. 59	× * * *	****	****	
mherst	. Connecticut	06		. 79	.00	. 67	67			00				.01								01			33			. 19	02			
hland	. Merrimac	35		. 53		.40	. 80			.01					.09						*	.09 .				.05			.26			
akers Bridge	Merrimacdo	35	.07	. 20		. 29	.74	.09				(614)								***	. 13	.07 .				. 12 .		. 21				
edfordlue Hill	do	28	T	. 28	0.0	. 24	- 49	. 03		.01		***	* × + #		.08 .		***	***	***	. 14	.04	.39 .			T.	.17	***	. 15	.09			
oston	dododododododo	. 49		- 45	.01	.58	. 28	. 00		.01	****	****	****		T	***	***	***	***	.03	.08	. 14	***	****		T		. UA	.07	.05		
hestnut Hill	do	69		. 61	.31	. 10	. 46									***	***				. 25 .				.04 .			. 19				****
linton	. Merrimac	38		. 70	.48	. 61	. 34								.01	***	***	***	***	. 14 .		. 26 .			*	. 22 .		. 25		***	***	
oncord	Coast	10	.01	. 30	. 45	2.00	13	.00		.02	****	***	****		.03	***		***	***	10	.00	. 41 .	***	***	T.	. 16	T.	. 15	.07			
tehburg	. Merrimac	. 07	.00			40	74	****	****	02		X+X							***	T	07	***			07	24	***	.30	05			****
ramingham	do	. 45		. 45		.51	.72					***			***			***	***		.07	. 05 .		***	. 11 .			. 13	.08			
averhill	Coast	04		.04	.70	. 24	. 52	. 12		. 03					.04 .		***				.01 .	***			***	. 23	. 10	.07	.08			
ingham	Coastdo	38	. 14	.00	.38	1.06	. 80	03		T.		***		09	. 20 .	***	***	05	***	I.	18	.29 .			***			T.	T.		****	****
fferson	Merrimac	. 30	.04	. 65	****	*	.94	. 00	****				****	. 00			***	. 00 .	***		10.	.24	***		17			*	.48		****	****
ke Cochituate	do		. 62	. 46		.43	. 49			.01										.08	.07 .				. 12 .				. 22			
wrence	do	. T.		.71		. 53	. 11			. 05				T.	.01 .			***	***	Г				***	*	. 14	.08	. 10	. 10 .			
cominster	do	29		76	.38	. 67	. 29			T		***		****	.05 .	***	***	***	***	.03	00	***		***	. 32	.03 .		. 15	. 21 .	***		
iddleboro	Coast	01																														
onson	. Connecticut			. 60	. 15	. 75	. 23	. 08				***								r					T.			. 20	.35			
antucket	. Coast	28	. 01	. 03	.15	.01	.04			× * * *		***			T.	.02 .		T.		12		.07										
ew Bedfordorfolk	do	30	00	.07		1.04	30	99		T	***	***			T.	. 07				.05	17	00					* 6 * 1	T	.07	***		
orthampton	. Connecticut	. 00		. 90	.36	. 72	.75	. 00		.03				****	4.							. 00 .	***		. 19		***	*	.39	.02		***
ymouth	. Coast		. 05	. 18		. 24		. 27						*	.08			.00		09 .						***	***					
inceton	Merrimac	28		. 49			1.35			***					· ·	***					16 .	***			***	. 24 .	***	*	.37			***
ovincetown	. Coast	. 10	. 10		. 78	. 50	10	. 21		****		***		***	I.		***	1.	15		* * * *	20	***				10	***	. 25	***		* * * ×
tland	Connecticut	. 47		.80		. 54	. 68			T.	***		***		***				40	r.	XX	. 10			.35	T.	. 40		. 58 .			***
merset	· COMMERCES CONTRACTOR	03	.04	. 14	. 35	1.48	. 27			.00							. 10 .			20 .		***		***								
uth Egremont	. Housatonie	. 18		. 56	. 35		.36		.03		***		***	33												.04						
ot Pond	. Coast	. 26	****	. 60	.34	. 44	. 13		.01	T		***	***	.03					***	.03	15 .		erel.	-	20		***	. 22	. 02 .			
unton	Coast	T.	T.	. 27	1	1.25		. 45	****	.02		***	***	***	T.					05					T.	40	***	T.	T.			***
rners Falls	. Connecticut	. 05			.80	. 96		. 49												r					686 1	. 200	A * 1		T			
stboro	Merrimac		.47	.00	-47	-47	- 08	63		70			***	. 21 .	***					15 .				***	. 10.			*	. 25			
lliamstownnchendon	Hudson	. 25	.01	. 92	.061	11	73	79		05		* * * *		08	03			* * * *							22	. 04	. 18	. 14 .	***	***		***
orcester	Coast			. 69	. 20	. 52	. 18		***	T.		* * * *	***	.08	T.	***	***			11	13	61	* * *	***	.08	. 02	1.0	.21	10	***	***	***
Rhode Island.									- 1		- 1							- 1														
ock Island	Coast	. 36	.01	. 12		. 20				T	× + + +		***							04		42									***	
sene	do	1	15	.07	. 25 2	2 79	. 08	67	***	. 02 .	***				01		***	* * * *		02				***	F							***
pe Valley	do	. 48	. 04	T.	. 14 1	. 25	. 01	.04	***	. 05		***			. 01 . T.				·	Ü.	07	08	***				***	T.	.05		***	***
ngston	do	. 63	.06	.09	. 09 1	. 45	T.	. 05 .		. 05 .					. 05 .					08		.04						***	.08 .			
arragansett Pier	dodododo	. 60	.08	.06	. 09 1	1.17			***	.03					.01 .	02 .				03 .	04 .								. 15 .			
wtucket	do	01	.06	20	1.30	49	99	. 83 .		.01 .				***	.01 .		**			02	**			***	01			T	.01 .	***		***
llum Lake	do	.01	. 10	.36	.30	. 18	. 33		***	.02			***		14			***		UI	** *	03		***	UI.	01		03	18	***	***	***
Connecticut.	1	1													14.					- 1	- 1	- 1					***			× × + ×	***	5 5 5
dgeport	Coast	. 65	. 11	. 25	.02	. 79	. 07	.03		T				T.											.07				T			
nton	Connecticut	*	. 17	. 65	.101	. 88	. 81 .							T.						04		. C8		***				. 14	. 55 .			
lchester	Coast	.30	. 07	. 17	. 101	. 58	. 13	223	***	.05 .				T.	ľ				7	0.	17	.06	**		0.			T.	Г.		***	***
nielson	Housatonie	.08	.04	. 20	1.55	.30	. 03 1	.59			**++	***	***	. 24 -	× 4 4			2000	23 4	01	** *	10	**	***	us .			. 28	16		***	***
la Villago		1 1000	9.0	00		-	- water	× 10.00		****	* * * 7 7 *		* * * * * * *	* * * **						* * * *		4000										

TABLE 2.—Daily precipitation for September, 1910. District No. 1—Continued.

		TAI			-	-		•					-																			
	Draw basins														D	ay c	of m	onth	h.				_				-	_	_	_	-	1
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
nnecticut-Cont'd.																				09		. 02			01	T		00	99	9		
tford	Connecticut	449	.02			1.00	. 15			. 02														. 09	.04				.04	4		
wleyville		55	0.000	15		.80	. 20															. 27			.07			****	T			
		5.4	. 03	. 33		77.6	15				1									211		- 21			T.			.04	1	* * * * *		***
w London	do	53	. 17	.37	. 19	45		491		610									Lange		+ 5747	. 178	BARNI					.08	. 20	0		
rth Grosvenordale	do		. 1125	. 20		. 52	. 07															08			Tr.	T		15	90	ó		****
thington	do	10		.40		79	. 30			T.				***					1	- 100					05			0.00	35	7		
th Manchester	Connecticut	40		.41		1.17	2.84													.09								· ·	. 18	5		
luntown	do	32			15	1 30	.04			.00	5				T.			****	08	T	. 14	. 04			T			.02				1000
llingford	Housatonie	30		17	. 13	. 36	. 35	****	1.			***		.06	****		T.	****	.00		.14	. 18			.00		. 18	. 19				
terburyst Simsbury	Connecticut		. 14	.76		.74	1.37			T.				. 03					****	T.		. 05			. 02			- 18	. 70	0		***
New York.		т.		. 92	. 12	99	1.01							T					T.	T.					. 82	.43	91 .08	. 24		1		
dison	Susquehanna Hudson			.48	. 04	.58	. 92		T.	.1	i			.23					T.	T.	T.	T.			. 19	.30	08	T.	. 2			
red	Susquehanna			. 67	. 14		. 94		T.	. 10	0			.04	****		****		T. 07 T. T.	T.				. 10	.58	.5		.45				
asterdam	Hardson	- 12		48		.18				.0				.36	T.					T.	T.				.44	.0	8 . 12			8		
hensllston Lake	do	03		.90	,06	. 63	. 54	. 04		. 25	2				. 33				T.		****	.36	T.		. 12	.3	30	.34	.20			
dford	. Coast	54	.20	. 47	.09	. 18	.08		. 05	. 12	2			35		****	****	****	T.		****	* 10	***		.77	. 0			5 .0	5		
nghamton	Susquehanna			.40	.52 .04 1.45 .17	.05			. 00	.4	6			. 15						. 01			.0	5	. 25	. 2	2 .56	.32	.4	6		
rmel	. Hudson	37	.00		1.45	.02		.07		.0	5			10	. 00			****			.01	. 09	***		35	.0	8 . 22	2	2 .2	1		
atham	do				. 17	. 22	. 63	. 03	. 23	.00				46		1		4	4								93					
operatown	Hudson			. 90	1.10		.80	. 26		. 2	O.		1	9.4		1									. 22	. 5	1 10	1 10	1.0	1		***
rtland				-74	.60		. 10	. 30	2 x 2 2	A 45	5	***	* * * * *	. 18				****	. 02	. 10	. 22	T.	***		T.							
tchogue	Coast Susquehanna	754		. 12		.27	1.55			. 3	1			. 13			****		7.11						. 32	1. 1	9 .81	1.2	1 .9	7		
Ruyter	Hudson	. 13		. 78			1.47			.4	1			. 23	****	****	****		01		****					.3	5 . 16	0				
mira	Susannhanna			1.00	.70	. 20	. 54	****				***		. 02				****	.01											,		
rt Hunter	Mohawkdo	24		1.00	. 02	. 67	. 53	. 26		.4	2			. 59	.03				T.			· · · ·	T.		. 73	1.0		1.3		4		
ens Falls	. Hudson	43		. 39							8			. 39	.02				T.	****		T.			. 58	1.0	0 .23	.7	2 .8	9		
oversville	Hudson	25		1 38		. 95	1.48	****		.2	7			. 57	.00										50	.2	2 .51	. 7	8 .4	8		
eenfield Center		19		. 70	.20	. 16	.41	- 28		. 1	8			. 35	. 12							. 04			26		7 .34	.33	3 . 5	2		
ffin Corners	. Delaware						****				7			95	***				.07	****		****	1		.46		. 23	3	1	7		
skinville	Susquehannado	. 15		. 72	. 62	.08	.41							. 42					01	.01					. 30	.7	5 .28	. 2	0 .9	1		
meroosick Falls	Hadeon	- 16) Of	5	. 75	. 12	. 45	. 30		.3	4			40	. 21				.07 .01			15			. 20	2	5 .46	50	0 . 0	0		111
dian Lake	do	90	91	. 40		.41	36	.07		1	0		.00	. 90					T.	T.	.06			T.	. 23	3 .2	3 .11	1 .2	5			
fersonvilleke Pleasant	Hudson	30		11, 00	.20		.30							. 20					T.		****	. 16			. 30	7.7		1.0	0			
berty	Delaware			1.83		T.	.35		. 15					. 40					T.	****	. 10	T.	***		.30	0.0	2 . 62	3 .34	0 .9	3		
ttle Falls	. Mohawk			. tx	1.20	. 58	. 68	2.20				elen.		00			dense						×××			1	. 26	. 10	0 .0	5		
ohonk Lakeorehouseville	. Mohawk	30		. 80		1. 15	.50			-				4.5		1	1	1							50	01.0	0 .40	. 50	01.1	0	****	***
unt Hone	Coast	1. 10			.38	. 60				· dr				92	***	****			. 06	****				* * * * *	.44	1 .1	0 56	11	2 1	5		
wark Valley	Susquehannado		1.15	. 94	1.06	.21	. 67	.50																		.3	91.16	8	7	1		
w Lisbon	do	22		80	. 10	. 20	.44			. 1	8			27						.01			***		3	.0	Z 1. 4	T	3	9		
ew York City	. Coast	1. 17	.01	.05		98	. 15			.0	0			17	1.		***	***								.3	5 .21	. 30	61.3	6		
orth Creek	dodo			.74	. 10	.40			. 35																		1 94	- 10	01.2	2		
orwich	. Susquehanna	2 29	. 14			1.53	. 25	. 42		.1	4			46				***		***			***		. 38	3	1.26	1 . 14	4 .5	6		
neonta	doSusquehannadododo	15		1, 13	. 79	1.18	. 40	.90						. 3!					T.						3!	5 .0	6 . 72	. 08	8 .8	7		
ort Jervis	. Delaware	3!	. 00	. 25	.78	. 18	. 02		. 08					01					01		****				UK	3 .0	4 .41	.0	1 .5	4		
lisbury	. Mohawk	40	30	57	.80	.07				1.1	5	* * * *	* * * * *	10	A		****				****				. 00	3		. 10	0 .1	3		
lisbury Millsarsdale	Coast	21	5 .50	21		. 45		T.																								
tauket	Coastdo	76	6 T.	T.	.07	. 17	. 08	T.	787	.1	1									0					1.		. 78		3	2		
erburne	Sugamohanna					- 10	00	. 4-3	T.	.0	6	1			T.	. 07	7			. 05	. 22				. 0	5			T.			
outhampton		51		. 60		. 56	.71			.2	0			37											40		81 30	0.0	31.4	3		
enton Falls	. Mohawk	19		96	.00	.30	1.78			T	0				. 3				* * * * *	****					60	3	0		1.2	0		
ibeshill		. 4		. 31	. 66		. 66	. 13		i	5			05	. 5	3				.17					01	8.						
ading River	. Coast	70	6	00	. 10	.01	. 01	.00	.01												. 17	49			. 26	T.		1.	4 6	2	Acres	
appingers Falls	. Hudson	10	0 .5	. 72	. 24	.02	25			0	5			110	.0							. 00	1		06	3		. 2	8 .0	3		
arwick	Susquehanna	06	8 .00	2 .93	.01	. 68	. 27							25	T.				02	T.					80	3 .3	3 .12	.2	7 .3	10		
	. Mchawk	00	5	50		. 39	1. 10				* * × =		* * * * *	1.3	.0					****		.00		. 0	5 .00	5						
est Point	Mohawk		. 0	8 .83	1. 40	.34	.32		.04	1	1			2.4	. 10)				T.					58	T.	.31	. 00	7 .2	7		
Pennsylvania.	. Monawa		1		1	1	-			1.									1	01	T		1	1	01	1 1	0 29	2 7	8 .4	0	1	1
toona	Susquehanna	00	0.00	2 . 62	1.00	.06		. 38		1.1	4	T	0	2 . 11	T	***				T.	T.				0	8 .8	0 .80	0.0	8 .8	9		
sonia		T.		1. 24	. 41	.05	. 35		T.	.0	7										****				90	.5	6 .25	. 1.	3			
llefonte	do	5	7	1.20	. 68	. 25	. :	. 45			2	1			1 0						. 10	****	***		. 14	2 . 3	00	8 .8	8 .0	77		
thlehemowers Lock	Lehigh	1 2	0 .11	0 43		. 02	- 47	****	****						3.00	***					.01						00	2				
tawissa	Susquehanna	1.14	T.	. 62	.08		. 00			.2	1	5	3	22				m	· m		. 10		***	* * * *		. 9	8 .26	3 .3	1 9	22		
nter Hall	do	7	.21	12.00	.70		T.			.3	9	1 2	4	T.	***			1.	1.	. 05	. 25			0	1 2.0	0 .1	8 .6	9 T.	.1	2		
arfield		7	8 .00	5 . 27			.30					0	5	02													3	0				
ylestown	Schuylkill	1.4	9 1. 1	5 .64		. 16	.87														. 58											
rifton	. Susquehanna	1.30	1.10	. 62	. 03	05	. 42		04	.3	9	. 2	·	51		****		****	T.	T.					. 76	61.0	6 .00	9 T.				
hrata	do	1.2	1 .0	. 31	.02	.03	.30					0	2	51												3000	Jan.	Acres .	4			
erett	. Juniata	1. 13	3 . 14	4 .50	. 61		. 11							51																		
	. Delaware	1.4	0 .1	9 90	- 18		. 27	64	****	***		* * * *			T	T.				T.	. 15				. T.							
ettysburg	. Potomac	8	0 T.	. 34	.01	. 03	T.					0	5	72							100					. 0	0	.0	8 .2	14		
rardville	Juniata Delaware do Potomae Susquehanna	1. 50	0 . 10	96	. 03	.02	. 41			.2	3	3	1	T.	***					***	. 00					5	4 .6	1 .3	4 .1	3		
ordonamburg	do	9 44		1 9	.00	.02	1 65														. 07					. 1.6	5 . 2	2				
anover	. Susquehanna	4	9 . 0	2 . 21		. 02	.41					0		. T.						04	0				T	0	4 0	T.	5			
rrisburgtingdon	Juniata	1.50	8 .0	1 .42	. 01	.01	. 16		****		4	0	2	- 21					T	. 16	.01				T.	1.1	0 .70	0 .1	0 .2	16		
	Impiata	1. 20	N . L	6 . 62	T.	N . 10	+ 00			0.8	The same			- 01		2000			.11	199			100	1	- BV	B 18	4	4	41	- 1		

Table 2.—Daily precipitation for September, 1910. District No. 1—Continued.

Stations.	River basins.	1_	_	_	-	_	_	_	_		_		-	_	,	Day	or n	nont	Δ.	_	_	_	_	_	_	_	-	_	_	-			
Commons.		1	2	3	4	5	6	7	1	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Pennsylsania - Cont'd.	G						5		F		1	1														1	1						-
Cennett Square	Coast Susquehanna				9			4														1					. 10						1
ansdale	Susquehanna Sehuylkill Susquehanna dododododododo																						****										
ebanou	Susquehanna	1.38	03	. 8	5 T.	.8	1 .4	9		** 1 **		0	5 00	00					. 05	***	T		***	****	1.00	2 00	3.30	.8	01				
e Roy	do	18	.07	1. 1	8 .01	1.1	0.0	5				0	1	. 10	***	****		****	T.		.05				. 94	. 28	1. 32	.0	2 . 18	8		***	
ewisburg	do	1.55	. 12	.7	8 .11	.1	0 .0	4				5	6	11							. 05					. 19	.41	1.4	3 .42	5	. 02		
ock Haven	do	65	19	1 4	45		0					9	4	04											49	26	96	0					
farion	Potomae Delaware	1.47		.3	7 T.	1.1	7 .0	8				10	0	.74											. 30	. 16		.0	5				
lauch Chunk	Delaware	90	. 18	1.0	0 .07		1	2		2	16	2	1	. 61							. 05				T.	. 16							
liffintown	Juniata Delaware	78	. 12	1. 2	5 . 12	.0	1 . 1	0. 0	2	0	10	9	1	20							. 02	03	****		T	10	10	. 5	02				1
ontrose	Susquehanna	20	. 12	21. 12	5	.2	6 . 1	5		0	16			. 20		1000									46	- 03	91	0.0	1.15	5			
lountain House	Juniata	1. 35	. 05	. 3	8 .64		0					18	8	. 91				****		. 18	****					· · · ·		. 13	2				
uncy Valley	Susquehannado	1.74		23	3 . 70	.8	7		3			2	1 1.	***	****		****		****	10	****		× • • •		.31	30	. 88	1.0	10				
ttaville	Delawaredo	2.34	. 13	. 61		.0	.8	1				10		. 08						.01									. 01	1			
hiladelphia (1)	do	1.71		- 11			1.0														. 01				780								
ocono Lake	do	. 2.92	. 14	.37			7		1					. 00			****		****		. 15			****	T.		* + * *	- 13	12		****	****	1:
ottsville	do	2. 03	.07	. 87	.02		30			1	1	31	0			****					. 15						. 05	.30	. 02				
eading	do Suequehanna	1. 24	. 11	. 25	. 02		. 45					. 13	3	.01						20	. 08					. 05							1
enova	do	26	.02	.82	. 02	. 0				. 0	8	11/	.00	. 14	****			****	****	. 32	. 01	****	****	. 10	. 16	1.00	.82	- 31	09		****	****	13
eisholtzville	Schuvlkill	1. 64		.31	. 23		. 2			0	3	10	0						****		.04		****			. 05			. 10)			
linsgrove	Susquehanna Schuylkill	1. 73	. 16	. 55	.07	.0	. 67			2	1	. 10 . 83	. 02	. 24		****					.06	****			****	. 31	.06	. 54	. 13	3			1
hawmonthippensburg				. 12		.30	.00					T	T	.40	.00				****				****	****	****	.34	.05		08		****	****	
miths Corners	Schuylkill	2. 67		.50			. 73																						. 00				
pring Mounttate College	Susquehanna Schuylkilldo Susquehannadododo GoCoastSusquehannado	1.31	. 10	1.00	. 13	T	. 2			0	2									· · · ·	.01	****			. 06	1 00	****	.01					1
owanda	do	07	.05	1.40		.12	. 20			. 0	0	01		.00					.01						1.06	, 03	1.89	T.	19	****	****	****	
ellsboro	do		. 04	1.00	. 13	.46								. 10											.42	.30	1. 03	.10	. 46				1
Test Chester	Coast	1.50	.05	. 20	. 63		. 30		6					1 60												1 10	. 42	. 02			****		1
Illiamsport		26		1.70	. 29	. 00				33		26		4.00						. 08	. 20				. 92	, 13	.02	95	. 42			****	1
New Jersey.	CoastdodoDelaware					1	-	1			1	1														. 20		-	1	1			
bury Parktlantic City	Coast	1 15	. 05	.01	***		. 20			1					.01	****	***			791					****	****			. 04				1
avonne	do	1.48	.02	.00			. 21			. 0	a				T.					1.	. 20			0000	T.		.03	T	T.				1
elvidere	Delaware	1.04	. 28	. 54		. 10	. 33			1	5	. T.		. 11							.08				. 23			. 72					
ergen Point	Passaie	1. 52	. 05	.06	1.05		. 34	91		0	6																	T.					1 3
ridgeton	Coast	. 95	. 55	. 28							1				T.								0000			0 0 0 0		. 09	. 31				1
urlington	Delaware Coast Passaic Coast Coast Delaware Coast do Passaic do Coast do Delaware do Delaware Delaware Coast	86		. 12			. 60								. 03						. 13												1
antonape May City	do.	2.01	. 15	04	****		01									04				T.	03				T.						- 00		1
harlotteburg	Passaic	67	. 11	1. 10		. 12	.00			2	6									. 10	. 00						. 16	. 15	****		.02	* * * * *	1
hatham	do	85	. 35		. 25	. 00		. 4	5	1	2 T.	****																T.	. 05				1
laytonollege Farm	do	2.41	. 04	. 27	T		77								T	****					00						· m						2
ulvers Lake	Delaware	83	. 24	1.34		.07	. 18			1	6	. 02		. 12						****	.00					. 10		. 47	.04		2222		3
over	Passaic	81		. 91		. 08	. 34			2	1	. 02		. 03											. 01			. 14	.04				2
isabeth	do	. 2.21	.07	. 28			. 50			00	3		0004	T							06				01		. 04	199					3
addonfield	Delaware	1.40	. 11	. 13			. 50								. 03						.04				.01		T.	. 40			****		2
ammonton	Coast	. 421	1.42	. 07			. 53														. 26							****					2
nlaystown	do	1.01	.00	.04			. 20	****	* * * *				***	****		****					. 24					****	****	****	.03		****		2
	Coast		. 49	. 18			. 14								. 03						. 28										****		i
	do			. 09			. 08			13	2				T.					****	T.				T.		T.	T.					1
akewoodambertville	Delaware	2, 55		. 18	****	****	. 45	****	***	* * * * * *			****		.06	****	* * * * ·	***	****		Tr.			***	****		****	****	T				3
ayton	do	80	. 27	.77		. 15	. 41			00	6			.08							. 15					. 19		.11	.05	****			3
ttle Falls	Passaie	2.00	. 11	.45		. 04	. 10			12																	. 58	. 22	T.				2
	Passaic	. 80		- 00		W W P W						CONTRACTOR AND		0 0 0 0	0000	0000	0.00	0.00	0000	000	4 1000		0000		0000				0000	0000		00001	2
oorestown	Delaware																																
ewarkew Brunswick	Coast	2. 25	. 12	. 25			. 05			02															T.		. 21	. 02					2
ewton	Delaware	60		. 90			. 00			26				.06					***		. 12				. 03			0000	.04				3
orthfield	Passaic Delaware Passaie Coast Coast Passaie Coast Coast Coast Coast Coast Coast A Coast Coast	50	. 59	T.											T.						.08												1
iterson	Passaid	1 23	. 14	.41	.05	. 12	.06		- 2.2	. 13	***	02		10				***			00	T.		***	T.	T	. 22	. 12	.12			***	2
ainfieldeasantville	Coast	1.70	. 12	. 18	.02		. 44			04		. 00		. 14			****		***	***	T.	***	***	***	. 03	.01	T	1. 62	T.	****	****		3
easantville	Passaic. Delaware.	. 1. 13		. 05																	. 15												1
ompton Plains	Passaic Delaware	9.50	. 30	T	. 82	. 29	1 19	. 09		. 13					01					di.									.11				2
vervale	Coast														.01					1.	. 10						.01						3
merville	do	. 1. 93	. 10	. 22	. 01		. 24			. 00					T.						. 15				T.								2
uth Orange	CoastdodoHudsonDelaware	1. 20	25	22		60	. 30			08				10	T.										T.	780	T.						1
enton	Delaware	1.45	. 30	. 10			. 53													***	.06				T.	1.	****	. 03	.03			***	2
																																	1
	do		01				01													T Y	70	***											
																				- 1	- 1			- 1	-								1
yard	Potomac	- 41	. 08	. 27	. 02	.04	. 45	T.	***	. 03		T.		. 44	***				T.	T		. 22	. 03		.06		T.	T.	. 19				2
rlington	do	* * * * * *	***	. 20		1.	. 25		. 10			***		. 25	***			***	***	T. .					. 50	. 28		. 70			****		2
arpers Ferry	do		. 31		. 22	. 21		. 10										***		***		***	***	***	***	***	T			. 15	****		· · · ·
arington ankin arpers Ferry st City artinsburg oorefield mney per Tract Maryland.	do	25 .			. 42	T.		. 18							. 18										T.	. 20	. 05			T.	T.		1 0
orefield	do	T. 32	15	T 20	T .03	95	T 20					. 05		40						. 12								797		-	· · · ·		0
mney	do	. 1.30	. 08	**	.11	T.		. 22			. 06			. 10	***			***	***	.53	02	***			***	17	. 04	1.	. 27	1.	1.		2
oper Tract	do	25 .		. 08		. 10	T.			. 17				T.										T.				. 18	. 05		. 53		1
Maryland.	Coast		40	20			67								97			-															
napolischmans Valley	do	24	. 02	. 28		.01	. 05							***	. 21		***		***	T	***	***	***		***			***				***	0.
INTO OPO	do	13 556	-8-	39		T.	. 17							. 06	T.					T.	T.				T.	T.		***				***	2.
mbridgeeltenham	do	. 62	02	. 47			. 15																										1.
		10	10.	. 40			00	. 40		1					. 08										-								0

Table 2.—Daily precipitation for September, 1910. District No. 1—Continued.

															D	ay	of n	ont	h.														
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Maryland-Cont'd.											1	-					1			T	T	T		T	T								
Chewsville	Potomae	. 34	. 05		. 04		. 07			***		. 27		. 03	. 08					. 13			T			T.	T	. 62	. 09			****	1.
Clear Spring	do	. 53	70	. 17			.04													0		***		***					.00		***	****	0.
College Park	dodo			19				***		***					09								***									****	0.
Cumberland	do	1.06	A	. 10			. 41	***				T	****		04					0		****	***			T	30	****	1.40			****	3
	Coast						29							T	. 03	T											T						1
Oarlington	do	46	. 60	18				15		T											1												i
Caston	do	1, 13	0	. 03			15			*	1													1000	. 00								î
Emmitsburg	Potomac	71		52	T.		. 08					. 04														. 13		. 22	.02			1111	î
allston	Coast	62	0.				. 15					1.		T.	T.										T.	1	1				1	10.00	i
rederick	Potomse		.0	. 07	T.	. 04	. 12													T.								T.	. 02				0
rostburg	do				. 02		. 10			. 0	1	.00	T.	. 10						1	8	. 00	3		54	1 . 2	š		. 02				3
Great Falls	do	04	. 35	. 08	. 03										1.90							1											2
Green Spring Furnace	do	1.44		.30	. 60							. 27	7							. 0	7							. 17					3.
Keedysville	do	55	5 . 08	. 20		. 02	. 05					T.			T.					19						. T.		. 01					1.
ake Montebello	Coast	1. 22	2 T.	. 30			. 20					T.		. T.	. 04											T.							1.
a Plata	do			1.08			1.21							. T.																			2.
Laurel	do	. 24	. 25				80		1	1	1		1		. 15	S							1										1.
Ioprovia	Potomac	. 22	. 15	. 10		. 10	.31					. 02	1	1.31														. 23	. 05		lines		2.
ocomoke City	Coast	. 94	.78	. 20							. 1. 05					. 1	4		-leve	00						· vec.			. 29				3.
Porto Bello	do									1.00	0									. T.													2
rincess Anne		1.22		. 10						.43	7					.0	6			18											. 04		2.
Rockville	Potomac	. 61		. 08			. 85								. 22					1													2,
Salisbury	Coast	1.98	. 00	T.				. 04		T.	. 25									00						1 555			T.			****	2.
Sanatorium	Potomac	. 63	. 05	. 34	T.	.08	. 01			T.	T.	. 20	T.	T.	T.					00						T.	T.		. 20	T.			1.
Solomons	Coast	. 63	.01	. 04			T.			- 90	T.									24	***				. 00						T.		1.
Sudlersville	do		.00	. 02			T.									T.				0	.00				. 00			****				****	0.
Takoma Park	do	. 08	. 00		.01				. 02		. T.	1			. 05													****				***	0.
Taneytown	Potomac					. 13																											1.
Towson	Coast		.01	. 26																													1.
Van Bibber	do	1.03					. 25			***						***							***					****		****		****	1.
Westernport	Potomac	. 68	T.				. 15	****	****		****	. 13		: :::		***	* * * *		T.					200	02	. 1			. 76			***	2.
Woodstock	Coast	. 13	T.	. 05		T.	. 26	T.						1. 18	T.	***			· I.	***	***		***	T.	***	* * * * *					****	****	L
Delaware.		1	. 26	-			-		1						m			1		T.	1			1	m						1		0.
Delaware City	Coast	. 27	. 2	T.			T.																					****	****	****			0.
Dover	do	. 00	. 10	. 03	783		. 07														772			***					PP3			0000	0.
Milford			.31	.03	T.		***	. 00		01			***			***			* * * *		. A.	***			***	***		****	1.		m	* = 1 +	0.
Millsboro			.00	. 03						. 01		****			****					1			***	***	***		***	****		***	1.	****	1.
Seaford	do	. 00	. 10	. 10		****		. 20		.04																		****	****		****	* 1.8 1	1.
District of Columbia.	Coast	1. 14	m				. 39						- m	89	TP.					an a					1							100	2.
Washington	Coast	1. 14	1.	. 11	****		. 39						1.	. 31	1.	***							1	1000	1	***		****		****		****	
Culpeper	Rappahannock	99	. 12	. 19						m					0.0									1									1.
Dale Enterprise	Shenandoah			. 13		90						****			. 00					T	***	T			***	RS		1 90			.01		2.
Doswell	Pamunkey			****	****	. 30	****		****	***	91	****			****									***		. 505		8. 40			1 4 4 4	10000	-
Castville	Coast										10		****		T	2	9			0	1				****						T		0.
redericksburg	Rappahannoek	50	.01	50	****					19	. 10	T			**			· · · ·		T			1	T		1							1.
incoln	Potomac	19		. 14		. 33	22				1	-	30)	. 12																		1.
fount Weather	do	. 10				. 00	. 20						. 00			1		1															
Quantico	do																																
taunton	Shenandoah	.01	.03	.02	.17	T.	. 20												1	T.		. 08			. 02	. 12		T.			. 02		0.
tephens City	Shenandoah Potomac		. 00			.05					1				.04					T							. 33						0.
Varsaw	Rappahannock		. 03							. 09	.00					1	1	1		.00					. 00		. 33						0.
Woodstock	Shenandoah			. 23		. 24	. 08																										1.
																1,	-1	1	-		1000	1	1000	1		1							

Table 3.—Maximum and minimum temperatures at selected stations, September, 1910. District No. 1, North Atlantic States.

-	1			-			-			-					T				chuset			, Nor	T		T		ecticut	
		Eastport.		Greenville.		Orono,	aine.	Portland.		Presque Isle.		Rumford Falls.		Concord, N. H.		Amberst.		Boston.	T	Middleboro.		Nantucket.		Providence, R. I.		Cream Hill.		Hartford.
Date.	Max.	Min.	Max	Min.	Max	. Min.	Max	Min.	Max	Min.	Max	Min.	Max	Min.	Max	. Min.	Max.	Min.	Max	Min.	Max	. Min.	Max	Min.	Max	Min.	Max	. Min
1	66 65 62 63 56	52 48 46 52 52	70 64 63 71 67	48 43 37 50 49	77 75 70 79 80	50 44 35 53 52	63 60 63 71 66	57 52 48 52 60	67 64 72 71 75	36 29 34 47 35	72 67 65 75 72	56 49 42 54 54	66 75 68 83 70	59 46 44 55 63	69 78 69 80 76	62 55 51 58 68	70 64 68 80 72	61 57 54 57 65	70 69 68 80 76	57 59 37 57 66	67 64 67 75 76	61 55 52 65 68	69 70 67 79 74	61 54 48 65 67	70 78 71 79 73	54 56 55 60 59	72 74 71 80 81	64 56 62 68
	62 53 60 61 61	54 53 51 51 45	64 65 69 67 66	54 54 53 51 41	74 76 71 74 70	58 56 53 53 53 37	63 78 66 78 61	56 55 59 53 49	66 56 69 65 71	45 49 51 53 34	63 74 73 75 66	60 50 60 55 41	65 78 75 79 68	59 58 52 51 41	80 80 76 76 71	65 61 53 55 41	65 82 68 81 64	61 62 61 57 51	72 82 72 76 67	66 62 51 57 42	71 80 70 73 65	63 66 57 59 51	72 80 72 80 68	62 67 58 58 49	78 75 76 75 78	57 59 53 58 42	77 78 74 78 70	60 64 58 57 48
	63 60 64 57 66	47 45 51 50 47	68 70 66 63 66	35 34 47 44 35	73 72 71 66 72	34 37 48 47 33	60 65 68 65 68	44 46 51 51 48	74 76 61 64 60	34 43 50 41 30	68 71 68 64 68	41 42 49 48 40	71 74 80 66 71	41 42 46 48 40	73 79 82 67 74	45 46 51 49 42	64 65 81 66 65	52 52 57 56 51	67 73 75 68 67	38 46 45 56 42	61 67 68 64 64	50 56 54 59 59	70 74 71 65 68	48 48 53 53 48	74 76 80 74 69	48 52 58 52 41	73 78 80 66 70	48 50 54 53 45
	59 61 74 55 57	50 49 53 47 52	65 63 63 51 63	38 36 45 32 43	73 67 73 68 68	41 38 44 40 40	64 68 79 60 65	51 49 52 45 46	68 66 65 60 63	31 30 35 26 45	66 67 71 52 60	44 41 44 46 46	66 70 80 60 73	41 44 42 45 47	72 72 78 64 73	41 43 42 48 46	64 65 82 66 71	52 51 56 47 49	67 62 78 63 69	38 47 38 52 48	64 61 75 64 63	53 53 58 57	66 65 78 65 71	48 50 54 46 46	71 73 78 70 71	45 49 56 48 41	70 70 81 66 71	44 46 52 48 48
	66 60 61 61 56	50 49 45 50 48	63 54 62 60 56	44 42 31 43 40	73 70 66 66 64	49 40 31 48 37	73 64 63 62 61	53 47 40 51 54	69 60 62 60 55	41 34 30 41 21	57 58 66 66 59	50 43 36 52 50	74 63 70 67 67	48 39 23 50 49	76 70 69 64 78	53 42 34 54 54	78 64 71 64 77	59 50 49 57 59	79 65 67 69 73	51 44 33 46 58	75 61 64 69 68	58 50 50 56 56	77 67 66 68 72	58 48 45 57 57	74 68 70 66 74	48 43 44 48 55	75 67 69 65 77	58 48 38 58 58
	62 59 68 60 61	54 52 53 47 47	67 67 63 61 66	54 45 54 40 32	74 74 72 70 68	56 43 55 40 38	68 60 72 64 63	58 56 53 49 49	62 66 65 65 71	41 33 54 37 34	70 62 64 64 67	52 50 50 42 38	75 62 70 69 71	54 48 52 43 35	78 65 71 71 70	58 58 48 40 39	77 65 77 63 70	57 59 59 52 50	80 68 78 65 67	55 54 60 40 36	74 66 72 62 64	57 58 59 50 49	80 66 76 68 64	61 58 56 45 41	78 65 73 75 70	52 56 52 50 48	77 72 72 72 69	62 59 55 48 45
D/S	61.5	49.7	64.1	43.1	71.5	44.3	66.0	51.1	65. 9	38.7	67.0	47.8	71.0	47.2	73.4	50.1	70.3	55.3	71.1	49.0	67.8	56.7	71.9	53. 6	73.4	51.3	73.1	53.
		on.						New	York.										1	Pennsy	lvani	n.						
		Aven Haven, Conn.		Addison.		Albany.		Binghamton.		Cooperatown.		Indian Lake.		New York.		Everett.		Harrisburg.		rmiadeipnia.		Scranton.		State College.		Wellsboro.		Asbury Park, N.
Date.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min
	69 75 70 79 82	66 60 55 65 70	73 85 81 76 83	62 44 56 60 65	70 75 67 80 82	62 55 60 63 64	69 74 71 73 79	61 55 60 61 66	71 68 62 72 80	54 58 55 62 59	70 74 68 77 70	59 39 37 56 53	71 76 71 81 86	68 63 66 69 70	77 77 73 82 84	65 60 64 61 60	74 75 73 81 85	67 64 63 65 68	73 74 74 85 89	69 65 64 69 78	74 79 71 78 84	63 60 62 68 66	75 75 73 77 82	59 54 62 61 65	72 83 77 78 80	59 42 54 60 60	72 70 71 78 90	67 64 66 69 70
	74 80 74 83 69	68 65 59 61 51	87 85 83 73 77	67 58 52 60 39	84 77 76 76 76 70	63 56 55 47	83 73 70 68 66	67 57 53 48 42	72 70 71 66 64	64 58 62 46 46	75 73 75 75 66	58 57 42 56 28	90 81 76 80 70	71 69 63 63 59	89 79 84 75 70	66 64 53 62 43	90 80 81 80 71	70 60 61 61 54	92 83 78 84 71	74 72 65 65 57	86 77 76 72 72	69 63 54 54 45	85 75 75 75 75 68	54 60				72 70 60 65 61
	69 72 78 70 71	50 52 55 54 49	68 85 73 69 75	42 61 59 50 35	73 79 78 65 70	48 60 59 50 44	66 78 69 62 66	45 61 54 46 38	69 72 65 59 63	60 60 51 43 42	70 79 70 65 69	35 39 51 44 33	72 74 79 69 72	61 62 63 59 54	69 79 77 72 67	56 60 60 60 41	67 79 78 64 70	56 62 62 56 51	74 78 83 71 71	58 62 63 62 56	67 77 82 65 68	52 58 59 52 44	61 76 73 67 69	400	89 67 72	36 49 32	68 72 73 70 72	58 60 58 60 56
	71 70 79 65 70	48 50 54 48 48	73 81 68 70 82	43 40 43 51 53	73 73 73 59 70	46 45 52 48 48	68 71 67 67 74	39 44 45 54 54	65 66 64 64 65	42 45 50 52 52	70 72 69 58 68	35 32 39 36 47	72 71 79 69 74	57 56 56 55 54	69 72 73 74 78	40 40 42 50 61	72 74 78 72 79	51 50 52 61 58	71 74 81 70 74	56 56 57 60 58	70 72 75 68 77	45 43 45 57 57	70 76 72 72 76	42 42 49 58 60	74 77 70 68 81	38 36 40 52 57	70 73 76 70 68	58 54 52 62 55
	78 70 68 66 76	60 49 43 60 58	79 75 74 69 81	54 43 37 59 61	76 63 69 63 72	55 45 40 53 60	70 62 69 68 73	52 44 40 60 61	67 54 66 59 71	40 35 34 56 59	60 64 60 65	44 34 30 46 47	79 68 70 73 77	65 58 56 65 66	76 73 76 80 83	58 46 47 57 57	79 72 72 79 80	63 56 56 67 66	79 78 75 81 82	66 59 56 66 64	76 69 69 72 73	56 48 47 60 63	74 70 68 75 78	54 45 53 59 49	76 72 72 69 78	44 37 38 60 61	78 75 67 72 71	64 60 61 65 67
	67	64 62 57 51 48	70 81 73 74 77	59 59 51 42 39	73 72 69 67 70	60 57 55 48 45	72 80 61 66 69	59 60 53 46 47	66 70 70 64 67	56 51 43 43 44	69 65 62 65 70	53 49 50 28 33	80 78 76 70 69	62 67 61 56 58	80 84 66 72 73	56 56 55 42 43	81 84 69 69 73	63 66 58 51 50	83 84 79 70 73	65 66 62 55 55	79 82 69 71 72	61 64 53 45 49	75 79 65 67 69	57 60 51 42 43	71 80 71 72 72	60 60 51 39 36	77 76 76 74 66	61 62 65 56 51
		56.0	76.7	51.5	72.1		70.1	52.4				43.0				54.3			77.5	62.5	74.1	55.4	73.1	53.3	74.8	47.9=	75.1	

TABLE 3.—Maximum and minimum temperatures at selected stations, September, 1910. District No. 1—Continued.

				New	Jersey					Va.				Mar	yland.							rj.			Vir	ginia.		
		Atlantic City.		Hightstown.		Newton.		Phillipsburg.		Martinsburg, W.		Baltimore.		Darlington.		Frederick.		Westernport,		Millsboro, Del.		Washington, D.		Culpeper.		Frederickaburg.		Staunton.
Date.	Max.	Min.	Max.	Min																								
1 2 3 4 5	77 70 74 80 84	69 66 69 68 74	73 78 73 87 91	67 63 56 68 68	77 83 69 81 88	65 56 56 63 64	73 80 70 83 88	66 61 60 66 69	79 79 80 89 88	67 63 64 63 63	80 74 80 86 91	70 66 67 68 74	80 73 75 83 88	67 61 64 63 69	78 77 79 89 88	69 63 66 65 71	82 76 78 90 89	67 62 65 62 64	80 72 80 90 91	58 58 60 60 60	80 71 81 90 88	69 67 67 67 72	85 73 80 87 88	72 65 65 64 68	87 73 85 92 53	70 66 68 65 69	83 79 80 88 89	64 62 64 61 68
6 7 8 9	85 85 75 86 68	75 69 63 66 57	94 83 81 85 75	69 64 54 61 48	90 83 84 79 75	67 64 58 62 42	92 83 82 81 73	68 65 55 57 49	95 88 86 85 75	68 67 68 60 50	96 88 83 89 74	74 72 66 67 57	91 82 90 83 72	70 65 61 65 51	95 87 84 86 73	70 69 58 68 51	90 87 89 78 71	61 61 55 57 44	93 79 83 92 74	60 60 61 64 60	94 88 85 86 74	72 67 64 65 55	93 89 86 86 72	70 65 59 59 53	95 91 88 88 75	73 66 62 63 58	90 87 87 87 87 73	72 62 56 65 53
1 2 3 4 5	72 73 75 70 68	65 60 61 60 56	76 82 85 73 73	49 54 52 61 45	74 80 84 72 75	45 53 51 52 38	73 81 85 69 73	50 55 55 52 45	69 83 82 83 74	50 63 63 64 47	75 79 81 75 73	62 65 66 63 54	73 79 80 72 72	56 59 59 59 59	73 81 86 76 72	61 66 62 62 46	77 81 81 74 72	53 64 63 65 43	74 79 81 71 71	60 57 56 56 56	75 85 84 73 72	63 66 63 60 53	72 81 85 75 71	63 66 61 65 52	76 86 86 77 74	63 62 61 65 54	76 84 85 75 74	57 59 62 63 52
6 7 8 9	68 70 76 70 72	56 55 57 60	73 76 83 72 76	44 43 45 56 54	76 79 81 73 80	37 37 42 50	74 77 80 66 76	46 44 45 58 55	76 77 82 75 83	43 45 45 49 61	74 76 84 72 79	54 53 45 64 64	73 75 80 71 77	50 47 40 63 59	74 75 80 76 82	44 43 47 64 64	74 77 83 78 81	40 40 43 60 60	71 74 85 72 81	49 50 51 56 60	73 77 82 73 84	49 48 48 65 64	73 73 79 77 83	48 44 42 62 61	74 76 83 78 85	48 47 44 58 59	74 74 78 78 78 82	40 41 42 52 58
1 2 3 4 5	77 67 70 76 75	65 57 62 68 68	81 73 76 82 85	60 50 41 60 58	82 75 71 69 81	59 43 36 63 58	82 73 73 77 83	56 51 44 62 62	79 79 80 86 82	63 52 53 54 62	81 74 75 80 82	67 60 61 69 67	79 73 74 80 81	60 54 51 51 65	80 76 76 82 87	64 54 56 67 64	77 78 83 81 86	58 50 49 60 60	83 72 78 83 85	62 57 51 61 58	82 75 75 83 84	63 60 55 68 67	81 76 74 81 84	57 56 54 60 61	83 76 77 87 87	60 59 55 64 63	84 77 80 86 86	54 55 58 58 61
6 7 8 9 1	76 75 77 68 70	64 69 60 54 59	85 87 79 75 76	62 59 65 43 43	83 83 75 75 76	59 60 58 40 40	84 84 76 72 74	60 64 55 45 46	86 87 75 73 78	59 61 63 45 47	83 84 80 71 73	64 67 61 54 55	84 83 76 72 72	63 65 64 49 47	86 88 77 73 74	62 62 63 46 48	85 88 76 71 75	57 55 57 45 46	88 85 84 73 73	56 62 60 55 46	88 85 80 74 72	65 65 58 52 52	85 86 78 71 68	61 66 60 50 47	90 88 82 75 73	59 60 60 51 48	85 87 83 73 71	58 60 59 48 55
Ins	74.3	63.1	79.6	55.4	78.4	52.5°	77.9	55.5	81.1	57.1	79.7	63.5	78.1	58.5	80.3	59.8	80.3	55.5	79.0	57.3	80.4	61.7	79.7	59.2	82.7	60.0	81.2	57.3

Climatological Data for September, 1910. DISTRICT No. 2, SOUTH ATLANTIC AND EAST GULF STATES.

CHARLES F. VON HERRMANN, District Editor.

GENERAL SUMMARY.

The month of September, 1910, presented the usual pleasant features that characterize autumn weather in the South Atlantic and east Gulf States. Generally the month was quite warm and dry, with a fairly high percentage of sunshine and light northeasterly winds. The temperature was above normal at almost all stations, except in southern Florida, while the precipitation was generally deficient and irregularly distributed.

The arrangement of pressure during the month gave no indication of a return to the more active atmospheric circulation characteristic of the late fall and winter months; the areas of low pressure were ill-defined and their courses difficult to trace, and accordingly the lowest pressure occurred on different dates in various portions of the district. Under the influence of a moderate disturbance central over the Lakes, accompanied by general rains from the 1st to 3d, the lowest atmospheric pressure occurred on the 3d in Virginia and North Carolina, while in South Carolina, Georgia, and Alabama the lowest was generally recorded on the 20th or 21st, and in Florida and Mississippi on the 25th or 26th. The lowest pressure reduced to sea level was 29.87 inches on the 21st at Montgomery, Ala., and on the 25th at Jupiter and Key West, Fla. On the other hand the areas of high pressure were more distinct and persistent and were generally associated with clear skies and pleasant weather. The area of high barometer that moved from South Dakota southeastward over the district from the 13th to 18th brought the first period of cooler weather for the season. From Georgia northward the maximum pressure occurred on the 12th, and in the Gulf States on the 6th or 7th. The highest was 30.30 inches at Lynchburg, Va., on the 12th.

The weather for the month was very favorable for outdoor work and for maturing crops, but in many sections the ground was too dry for fall seeding. There were few severe storms, the winds were light, and heavy rains were reported at but few places. As a whole, the temperature conditions indicate the late advent of autumn as compared with last year.

TEMPERATURE.

The temperature during the month of September was above normal throughout nearly the entire district, except in the southern portion of Florida, and a few placees in the mountainous sections. The excess gradually increased from Florida and the coast line toward the interior, the monthly means ranging from 3° to 4° above normal at points in the northern portion of the Gulf States. This caused a far more uniform and smaller gradient in the monthly means from south to north than is usually the case. The greatest excess at any regular Weather Bureau station was 4.5° at Meridian, Miss. The departure for most of the district averaged +1.7°, but in Alabama it rose to +2.5° and in Mississippi to nearly +3.0°. In some sections the state means were very high as compared with previous records. In Mississippi the mean for September this year has been exceeded but once in 22 years, and the mean for Georgia has been exceeded but three times during the past 19 years.

The month opened with rising temperature and the first period of warm weather prevailed from the 5th to the 8th, during which the temperature rose above 90° at a large number of stations. A period of warm weather occurred as late as the 21st to 23d. During both of these warm spells the highest temperatures experienced during the summer were recorded at many places, notably in Georgia, where over 20 stations registered the highest temperatures for the year. A maximum of 95° was reached in Virginia, 97° in North Carolina, and in all other States the extremes exceeded 100°. At Florence, S. C., 103°

was registered on the 7th, the highest temperature recorded in South Carolina during September since 1896. In Georgia the maximum for the State, 103° at Blakely and Eastman, has been exceeded but twice in September since 1892. At the end of the first decade a period of comparatively pleasant, moderately cooler weather began, which culminated in a moderate cold spell, lasting from about the 15th to the 20th, the 16th, 17th, and 18th being the coldest days for the month, with minimum peratures below 40° in Virginia and North Carolina, and ranging from 43° to 48° in other parts of the district. The weather, however, was not cool enough for even a touch of frost in any portion of the district, while in September, 1909, light frosts were general over the district on the 28th and 29th, extending even into northern Florida.

The following statistical data show in a concise way the range of temperature conditions throughout the district. The mean for the entire district, determined from the records of 338 stations, was 76°. The state means ranged from 71.5° for Virginia to 79.3° for Florida. The highest monthly means at individual stations ranged from 74.8° at Newport News, Va., to 81.8° at Clermont and Live Oak, Fla.; and the lowest means varied from 76.8° at Booneville, Miss., to 62.6° at Hot Springs, Va. Monthly mean temperatures exceeding 80° occurred at 16 stations in Florida and at one each in Georgia and Alabama. The highest for the district was 103° at Florence, S. C., and Eastman, Ga., on the 7th, and at Blakeley, Ga., on the 7th, 8th, and 9th. The lowest was 38° at Hot Springs, Va., on the 16th. Mount Airy, N. C., registered 39° on the 8th, while at all other points the minimum temperatures were above 40°.

PRECIPITATION.

The precipitation for September was below the normal in all States comprised in the district, the State averages showing a comparatively small range from 2.03 inches for Virginia to 3.22 inches for Florida. The deficiency was greatest in Florida (-4.18 inches) and least in Alabama (-0.58 inch). The average for the entire district was 2.68 inches, or 1.50 inch below normal. At a large majority of stations the monthly totals ranged from 1 to 4 inches; the number of places receiving less than 1 inch was 50, more than 6 inches only 16. The distribution of precipitation was irregular, especially in Georgia, Alabama, and Mississippi. The most general rains fell from the 1st to the 3d in the northern and from the 1st to 6th in the western portions of the district, while on other dates centering chiefly about the 9-11th, 22-23d, and 29-30th, scattered showers occurred at widely-separated stations. The longest period of fair weather prevailed from the 16th to 19th in the north and from the 16th to 21st in the south and west portions, but in Georgia drought prevailed from the 10th to the 29th over the northern half of the State, many places being without appreciable rainfall during that period.

The areas in which the rainfall was above the normal were very limited in extent. In North Carolina a moderate excess was noted in the west from Mount Holly northeast to Reidsville, and in the east from Goldsboro to Greenville; in South Carolina the precipitation was above normal over the central and extreme eastern portions; in other States the excess was limited to one or two stations that received local heavy rains, as in Georgia at Lafayette, in Alabama at Bermuda and in Mississippi on the coast between the mouths of the Pearl and Alabama rivers. A considerable excess also occurred in Florida from Key West northeast to Arcadia and at Homestead. The greatest deficiencies in rainfall occurred over the central portion of the peninsula of Florida

The greatest monthly precipitation in the district was 10.35 inches at Homestead, Fla., which was the only station reporting as much as 10 inches. Pascagoula, Miss., received 8.24 and Lafayette, Ga., 7.30 inches. The least monthly rainfall was 0.22 inch at Aberdeen, Miss., closely followed by Columbia, Va., with 0.23, and Dadeville, Ala., with 0.30. Excessive precipitation occurred at but few places during the month; the following are the most important records: Danville, Va., reported 2.68 inches in 24 hours on the 2–3d; at Greenville, N. C., 4.34 inches fell in 10 hours on the 9–10th, the heaviest rainfall on record at that station; at Willard, N. C., 2.08 inches fell in 30 minutes on the 24th; Allendale, S. C., reported 4.00 inches on the 30th and Clemson College 4.31 on the 1st; Adairsville, Ga., 4.02 inches on the 1st and Lafayette 3.15 on the 8–9th; the maximum fall in Florida was 3.88 inches at Switzerland on the 26th; in Alabama, 3.37 at Bermuda on the 5th; and in Mississippi, 4.15 at Pascagoula on the 9th. The average number of days with rain was 7. A moderate number of thunderstorms occurred, and hail was reported at a few points.

RIVER CONDITIONS.

At the beginning of the month the rivers in the district were all rising under the influence of the general rains from the 1st to 3d, but as the remainder of the month was relatively very dry low stages prevailed throughout most of the month, and river conditions presented no features of special interest. A moderate rise occurred on the Roanoke River at Weldon, N. C., on the 5th, for which warnings were issued for the benefit of railroad bridge builders at that point. The rivers reached flood stages in the Wateree at Camden, S. C., on the 3d and in the Santee at Ferguson and Rimini on the 7th and 8th, but no damage of any kind resulted. River stages were below the normal in the rivers of Georgia, Alabama, and Mississippi during nearly the entire month.

MISCELLANEOUS PHENOMENA.

The prevailing winds in the district were from the northeast in all States, except Alabama and Mississippi, where they were from the east and north, respectively. The wind movement was small everywhere in the district. An average hourly velocity exceeding 10 miles occurred only at Hatteras, N. C. (average hourly velocity 13.8 miles), and at Pensacola, Fla. (10.7 miles). These two stations were also the only ones that reported maximum velocities exceeding 40 miles, viz: Hatteras, 44 miles from the northwest on the 14th, and Pensacola, 48 miles from the southeast on the 12th. The number of clear days was uniformly about 16 in all portions of the district, the number of cloudy days but 5; in South Carolina and Florida there were on the average but 3 cloudy days. No local storms of sufficient importance to deserve special mention were reported during September.

AVERAGE STREAM FLOW OF THE SANTEE RIVER SYSTEM IN SOUTH CAROLINA.

By J. W. BAUER, Section Director, Columbia, S. C.

The fan-shaped catchment basin of the group of rivers that empty into the Atlantic Ocean near Georgetown, S. C., through the Santee River, and commonly known as the Santee River system, includes the principal and by far the most numerous water-power sites in South Carolina. The system is composed of three main tributaries; namely, the Catawba-Wateree, Broad, and Saluda. The Catawba-Wateree on the north has a total length from its source to the ocean of 385 miles; the Broad, with its numerous small tributaries occupying the central position, is 307 miles long from its source to the ocean; the Saluda on the south occupies a much narrower valley, and has a length of 319 miles from its source to the ocean.

The Congaree, carrying the united waters of the Broad and the Saluda rivers, is about 52 miles long, but drains a comparatively small territory and has no water-power sites. The Santee River forms the handle of the fan-shaped basin and drains a strip of low-lying land about 119 miles long, and at no point over 30 miles wide, but as it carries the water of three fairly large rivers its discharge is always considerable, and at times of flood stages in its tributary rivers the volume of its discharge is very great. It has no power sites. On the Catawba River the principal water-power sites are located between the State line and Camden, S. C., the latter being the place where the river changes its name to Wateree. From Camden, S. C., to the mouth of the river there are no waterpower sites. On the Broad River the power sites lie between the State line and Columbia, S. C., and on the Saluda River between Greenville, S. C., and Columbia, S. C. Many of the larger tributaries of these three rivers also afford water-power sites of considerable developed and estimated horsepower. Much of the potential power has been developed in recent years, mainly as large projects, but smaller potentialities on each of these rivers and their main tributaries still await development. Power to the amount of 165,803 horsepower has already been developed, distributed as follows: on the Catawba, 90,000; on the Broad, 54,813, and on the Saluda, 19,650. The Congaree is credited with 1,340 horsepower, but this properly belongs to the Broad River.

The variations in the flow of these rivers has been measured by gages on all the rivers in recent years, but only at Columbia, S. C., on the Congaree, Mount Holly, N. C., and Camden, S. C., on the Catawba-Wateree, and at St. Stephens, S. C., on the Santee, does the elapsed time since gage readings were begun afford reliable mean stage results, or establish with even approximate accuracy the relative frequency of flood stages or of extreme low water stages. The mean stages by months for each river gage station are given in the following tables:

Mean stages of the Saluda River. PELZER, S. C.

This station is 100 miles above Columbia, S. C., at the mouth of the river. Length of record, 4 years. Flood stage, 7 feet. Drainage basin, 454 square miles.

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oet.	Nov.	Dec.
4.2	4.5	4.4	3.9	3.9	3.8	3.6	3.6	3.6	3.6	3.2	3.8

CHAPPELS, S. C.

This st	tation is l, 5 years										Length
Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
6.1	6.4	5. 9	4.5	4.6	5.3	5.9	4.8	4.1	3.4	3.1	5.4

Mean stages of the Broad River. BLAIRS, S. C.

This station is located 36 miles above Columbia, S. C., at the mouth of the river. Length of record, 5 years. Flood stage, 14 feet. Drainage basin, 4,560 square miles.

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
3.3	3.1	4.0	1.8	2.2	2.6	2.5	3.2	1.8	1.2	1.6	2.6

Mean stages of the Congaree River. COLUMBIA. S. C.

This station is 52 miles above the junction of the Congaree and Wateree rivers. Length of record, 18 years. Flood stage, 15 feet. The drainage area above the station is 7,972 square miles.

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
2.9	4.4	3.6	2.7	1.8	2.6	1.9	2.8	1.8	1.2	1.3	2.1

Mean stages of the Catawba-Wateree River.

MOUNT HOLLY, N. C.

This station is 143 miles above the mouth of the river, and drains an area of 1,774 square miles above the station. Length of record, 10 years. Flood stage, 15 feet.

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
2.3	2.5	2.5	2.2	2.2	2.3	2.2	2.4	2.2	2.0	1.9	2.1

CATAWBA, S. C.

This station is 107 miles from the mouth of the river, and the drainage area above the station is 3,634 square miles. Length of record, 4 years. Flood stage, 11 feet.

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oet.	Nov.	Dec.
4.1	4.4	4.0	3.2	3.6	3.6	4.0	4.9	4.5	4.6	3.3	4.0

CAMDEN, S. C.

This station is 54 miles from the mouth of the river, and the area drained above the station is 5,319 square miles. Length of record, 19 years. Flood stage, 24 feet.

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
9.6	11.9	11.3	8.7	7.7	8.8	7.9	9.0	7.3	6.9	6.2	8.0

Mean stages of the Santee River.

RIMINI, S. C.

This station is 108 miles from the mouth of the river, and is 11 miles from the junction of the Congarce and Wateree rivers. Length of record, 4 years. Flood stage, 12 feet. Drainage area above station, 14,551 square miles.

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
11.1	12.2	11.7	9.2	9.8	11.4	10.6	11.4	10.0	8.5	8.4	10. 2

FERGUSON, S. C.

This station is 78 miles from the mouth of the river. Length of record, 3 years. Flood stage, 12 feet. Drainage area above the station is 14,810 square miles.

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oet.	Nov.	Dec.
. 11.5	12.6	12.4	10.3	10.5	11.3	11.9	11.6	10.6	8.8	9.7	10.6

ST. STEPHENS, S. C.1

This station is 50 miles from the mouth of the river. Length of record, 16 years. Flood stage, 10 feet. The drainage area above the station is 15,307 square miles.

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oet.	Nov.	Dec.
6.5	7.9	7.9	7.1	5.7	5.3	5.3	5.8	4.9	3.5	4.5	5.5

¹ This station was closed August 31, 1907.

The extreme high and low water stages are well established by the gage readings at those stations whose records go back to the year 1900, or an earlier date, as the period between that year and the present one includes both the driest autumn and the heaviest rainfall of record in the watershed of the Santee system.

Stations.	Rivers.	Highest.	Date.	Lowest.	Date.
Pelzer, S. C	Wateree	14. 0 34. 7 31. 0 35. 8 14. 2 28. 4 39. 7 33. 8 23. 7 15. 6	Aug. 26, 1908 Aug. 27, 1908 Aug. 27, 1908 Aug. 27, 1908 Aug. 26, 1908 Aug. 26, 1908 Aug. 30, 1908 Aug. 30, 1908 Aug. 31, 1908 Mar. 31, 1908	1.8 0.7 0.0 - 3.0 0.2 1.3 0.9 2.9 5.2 - 2.2	Sept. 6, 7, 8, 1907 Nov. 7, 1905. June 27, 1905. Oct. 5, 1904. June 28, 1890. Oct. 4, 1908. July 5, 1898. Oct. 29, 1907. Dec. 1, 1909. Oct. 26, 1904.

It will be noted that the highest water at all stations in operation at the time occurred during the flood of August, 1908. This was undoubtedly the greatest flood that has been experienced on the Santee River system in a century. Authentic flood stage records have been kept at Columbia, S. C., previous to the installation of a river gage, since 1840. The heights of

the previous flood stage marks have been reduced to equivalent readings on the river gage by lines of levels made by a competent civil engineer. The following list of high water stages stages include only those in which 30 feet or over were recorded namely, August, 1840, 33.7 feet; September, 1852, 34.4 feet; February, 1865, 34.0; May, 1885, 31.2 feet; June, 1886, 30.2 feet; September, 1888, 33.3 feet; August, 1908, 35.8 feet.

The different rivers of this system are variously susceptible to flood stages. The Saluda River at Pelzer, S. C., 49 miles from its source, has been above flood stage 19 days in the last 4 years; at Chappells, S. C., 102 miles from its source, there were 58 days with flood stage in the last 5 years. The Broad River at Blairs, S. C., 110 miles from its source, has been above flood stage 14 days in the last 5 years. The Congaree River at Columbia, S. C., has been above flood stage 87 days in the last 18 The Catawba River at Mount Holly, N. C., 123 miles from its source ,has not been above flood stage in the last 10 years; on the same river at Catawba, S. C., 159 miles from its source, flood stage has been recorded on 28 days in the last 4 years; and at Camden, S. C. (Wateree River), 212 miles from its source, on 234 days in the last 19 years. The Santee River is bordered by extensive low swampy lands that are frequently flooded and remain so for considerable periods, owing mainly to the poor drainage; the record at Rimini, S. C., indicates 512 days in the last 4 years; at Ferguson, S. C., the record indicates 400 days in the last 3 years, while at St. Stephens, S. C., the eleven-year record (1896-1907) indicates but 289 days, being an average of 26 days to the year as compared with 128 and 133 days at Rimini and Ferguson, respectively. The difference between St. Stephens and the other points on the Santee River, is that the former does nor include the great flood of August, 1908.

A summary by months of the number of days above flood stage indicates that the largest number of floods occur in February, the second largest number in March, and the third largest in August; also, that the smallest number of floods occur in November and the next smallest number in October. The following table gives the relative frequency of floods by months:

Stations.	Length of record, years.	Flood stage, feet.	January.	February.	Mareh.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Pelzer, S. C	4 5 5 18 10 4 19 4 3 11	7 14 14 15 15 11 24 12 12	1 14 2 15 0 2 26 48 55 20	0 2 1 21 0 4 43 67 69 88	1 7 1 10 0 1 32 66 49 51	1 0 0 10 0 0 16 25 32 28	3 3 0 2 0 2 13 27 34 10	4 6 3 6 0 4 17 44 32 25	3 6 0 3 0 0 8 49 36 7	2 7 5 9 0 7 31 55 30 15	1 0 0 3 0 1 14 47 26 31	3 0 0 2 0 4 17 31 3 5	0 3 0 0 0 0 1 22 24 2	0 13 2 6 0 3 16 31 10 7

The average precipitation for western South Carolina, in the catchment basin of the Santee River system, has been determined from rainfall measurements at about 20 stations, whose lengths of records cover varying periods ranging from 6 to 20 years, including the year 1909. Regardless of length of record the data at each station shows an almost uniform annual double curve having a February maximum, an April minimum, and a greater August maximum and a lower October–November minimum. About 33 per cent of the annual precipitation falls in June, July, and August. There is a close relation between the rainfall and the mean river stages. The occurrence of floods is also closely correlated with these curves of maxima and minima precipitation, except that the run-off is greater for the winter than for the summer rainfall. The winter rains are usually general over the entire watershed, while the summer rains are mostly convectional being heavy to excessive only in

¹Includes data to December 31, 1909.

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small areas. When, however, the rain is at all general over the Discharge of Broad River at Alston, S. C., 1899-1907, inclusive, drainage area, watershed in the summer, destructive floods are almost certain 4,610 square miles. watershed in the summer, destructive floods are almost certain to occur. The highest flood waters amost without exception, have occurred late in the spring, during the summer, or early in the autumn. In the following tables the average precipitation by months is given for the drainage basin of each river, but for the Congaree River the averages for all stations in the Broad and Saluda river watersheds are combined and for the Santee River the averages include all the measurements that have been made in the entire Santee River system.

Normal precipitation.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Yng.	Sept.	Oct.	Nov.	Dec.
Saluda Basin	3.48 3.61 3.63	4.92 5.07 4.26	4.32 4.31 4.15	3. 28 3. 15 3. 18 3. 15 3. 14	3.64 3.61 4.24	4.65 4.64 4.90	4.59 5.11 5.25	6.03 6.04 6.06	3.57 3.74 3.74	2.90 2.82 2.96	2.58 2.65 2.66	3.76 3.76 3.91

In an article written by Mr. M. O. Leighton, Chief Hydrographer, and published in Section 87, Western South Carolina, Summary of the Climatological Data for the United States, there are tables giving the discharge in cubic feet per second of some of the rivers of the Santee River system summarizing the measurements that have been made to and including the year 1908. The averages are reproduced herewith in the short tables. Another table is added for Columbia, S. C., on the Congaree, where the measurements were made by the United States Assistant Engineers at various dates and for different stages of the river, but all for comparatively low water stages. The volume of flood discharge has never been determined, nor have measurements been made for extreme low water. table does include the average flow as shown by the table of mean stages:

Discharge of Saluda River at Waterloo, S. C., 1899-1905, inclusive, drainage area, 1,060 square miles.

	Discharg	ge in cubic fe	et per second.
	Maximum.	Minimum.	Per square mile
Average for the period	19,000	200	1.91

	Dischar	ge in cubic fe	et per second.
	Maximum.	Minimum.	Per square mile.
Average for the period	131,000	785	1.84

Discharge of Catawba River at Morganton, N. C, period June 19, 1900, to 1908, inclusive, except 1901, 1902, and July and December, 1906, drainage area, 758 square miles.

	Dischar	ge in cubic fe	et per second.
	Maximum.	Minimum.	Per square mile.
Average for the period	28, 400	280	2.02

Discharge of Wateree River at Camden, S. C., period 1905-1908, inclusive, except August to December, 1908, drainage area, 2,640 square miles.

	Dischar	ge in cubic fe	et per second.
	Maximum.	Minimum.	Per square mile.
Average for the period	29, 600	690	2.79

Current measurement of the Congaree River at Columbia, S. C.

Date.	River gage.	Area, square feet	Discharge in cubic feet per second.
December 26, 1900 December 27, 1900 January 16, 1901 January 17, 1901 January 18, 1901	2.4	2, 881, 1	9, 393. 3
	2.0	2, 618, 9	8, 459. 7
	4.5	3, 847, 0	13, 245. 3
	4.0	3, 623, 8	12, 810. 3
	5.9	4, 493, 0	16, 825. 2

The estimated available horsepower developed by the rivers in this section, that drain into the Santee, is given in the following table. The table was prepared by Mr. Leighton.

River.	Section.	Minimum horsepower.	Six months' horsepower.
	Camden to State line		98, 400 99, 900 53, 800

TABLE 1—Climatological data for September, 1910. District No. 2, South Atlantic and east Gulf States.

Danvillej Diamond Springs. Hampton. Hot Springs. Ivor Lassiter Lexington. Lynchburg. New Castleff. Newport News. Norlolk. Petersburg. Randolphif. Richmond. Rocky Mount. Saxe North Carolina. Beaufort Beaufort Beaufort Beaufort Beaufort Belhaven.	Hanover Botetourt Brunswick Princess Anne Albemarie Mecklenburg Fluvanna Pittaylvania Princess Anne Elizabeth City Bath Southampton Goochland Rockbridge Campbell Craig Warwick Norfolk Dinwiddie Charlotte Henrico Franklin		27	71. 2 71. 5 72. 8 73. 6 71. 4	+++ Departure from	F.S. Bigbest.	a Date.	Lowest.	T	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of clear days.	Number of part-	Number of cloudy days.	Prevailing wind direct	Observers.
Arvonia Arvonia Ashlandi Buchananii Buchananii Caliaville Caliaville Cape Henry Chariottaville Clarkavilleii Columbia Danvilleii Diamond Springs Hampton Hot Springs Ivor Lexington Lyonbburg New Castleii Newport News Norfolk Petersburg Randolphii Richmond Rocky Mount Saxe Spottsville (near) Williamsburg North Carolina Beaufort Belhaven Berwers Caroleen Chalybeate Springs Chapol Hill Charlotte Chimney Rock Clinton Durham (near)	Hanover Botetourt. Brunswick. Princess Anne. Albemarie. Mecklenburg. Fluvanna. Pittsylvania Princess Anne Elisabeth City. Bath. Southampton. Goochland. Rockbridge. Campbell. Craig. Warwick. Norfolk. Dinwiddie. Charlotte. Henrico. Franklin. Charlotte.		19 6 16 36 21 16 12 10	71.5 72.8 73.6 71.4	+ 3.0	93 94		43					-	-	-				+	
Callaville Cape Heary Charlottaville Clarkaville Clarkaville Diamond Springs Hampton Hot Springs Ivor Lassiter Lexington Lynchburg New Castle Newport News Norfolk Petersburg Randolph Richmond Rocky Mount Saxe Spottsville (near) Williamsburg North Carolina Beaufort Belhaven Brewers Caroleen Charlotte Charlotte Charlotte Chimney Rock Clinton Durham (near)	Botetourt. Brunswick Princess Anne. Albemarie. Mecklenburg. Fluvanna. Princess Anne Elizabeth City. Bath. Southampton. Goochland. Rockbridge. Campbell. Craig. Warwick. Norfolk. Dinwiddie. Charlotte. Henrico. Franklin. Charlotte.		6 16 36 21 16 12 10	72.8 73.6 71.4	+ 3.0	94	6	-	16 18	36 33	1.59	- 2.12	0.90	0.0	6	13	14	3	8.	Rev. P. F. Jones. E. L. C. Scott.
Callaville Cape Heary Charlottaville Clarkaville Clarkaville Diamond Springs Hampton Hot Springs Ivor Lassiter Lexington Lynchburg New Castle Newport News Norfolk Petersburg Randolph Richmond Rocky Mount Saxe Spottsville (near) Williamsburg North Carolina Beaufort Belhaven Brewers Caroleen Charlotte Charlotte Charlotte Chimney Rock Clinton Durham (near)	Brunswick Princess Anne Albemarie Mecklenburg Fluvanna Pittsylvania Princess Anne Elizabeth City Bath Southampton Goochland Rockbridge Campbell Craig Warwick Norfolk Dinwiddie Charlotte Henrico Franklin Charlotte	20 5 2,195 87 100 1,060	27	73.6 71.4							2.36 2.50	- 1.12 - 1.02	1.43	0.0	6	6	20	4	n.	D. D. Boose.
Danville Diamond Springs Hampton Hot Springs Ivor Lassiter Lexington Lynchburg New Castle Newport News Norfolk Petersburg Randolph Richmond Rocky Mount Sase Spottsville (near) Williamsburg North Carolina Beaufort Belhaven Brewers Caroleen Caroleen Chalybeate Springs Chapel Hill Charlotte Chimney Rock Clinton Durham (near)	Princess Anne Elizabeth City Bath Southampton Goochland Rockbridge Campbell Craig Warwick Norfolk Dinwiddie Charlotte Henrico Franklin Charlotte	20 5 2,195 87 100 1,060	27	*****		92	6	45 57 51	18 18 17	29 19	0. 69	- 3.39	0, 39	0.0	5	17	7	6	sw.	F. M. Gage. U. S. Weather Bureau.
Danville Diamond Springs Harupton Hot Springs Lvor Lassiter Lexington Lynchburg New Castle New Castle New Castle New Castle Randolph Randolph Richmond Rocky Mount Sase Spottsville (near) Williamsburg North Carolina Beaufort Beaufort Belhaven Brewers Caroleen Caroleen Charlotte Charlotte Chimney Rock Clinton Durham (near)	Princess Anne Elizabeth City Bath Southampton Goochland Rockbridge Campbell Craig Warwick Norfolk Dinwiddie Charlotte Henrico Franklin Charlotte	20 5 2,195 87 100 1,060	27		+ 3.4	93	6	51	17	26	1.78	- 2.96	0.64	0.0	10	11	11	8	ne.	Leander McCormick. J. Henry Ligon.
Hampton Hot Springs Ivor Lessiter Lessi	Elizabeth City Bath. Southampton Goochland. Rockbridge. Campbell. Craig. Warwick. Norfolk. Dinwiddie. Charlotte. Henrico. Franklin. Charlotte.	20 5 2,195 87 100 1,060	27	70.8		91	6	43	18	35	0.23	- 2.33	0.12	0.0	4	17	7	6	ne.	Chesapeake & Ohio R. R. C. G. Watkins.
Hampton Hot Springs Ivor Lessiter Lessi	Elizabeth City Bath. Southampton Goochland. Rockbridge. Campbell. Craig. Warwick. Norfolk. Dinwiddie. Charlotte. Henrico. Franklin. Charlotte.	2, 195 87 100 1, 060 685		73.8		95	6	50	18	28	1.04	*******	0. 67	0.0	6	20	4	6 7		Virginia Experiment Sta.
Lassiter Lexington Lynchburg New Castleii New Castleii Newport News Norfolk Petersburg Randolphii Richmond Rocky Mount Saxe Spottsville (near) Williamsburg North Carolina Beaufort Belhaven Brewers Caroleen Chalybeate Springs Chapel Hill Charlotte Chimney Rock Clinton Durham (near)	Goochland Roekbridge Campbell Craig Warwick Norfolk Dinwiddie Charlotte Henrico Franklin Charlotte	1,060 685	18	74.1 62.6	+1.9 -0.1	92 82	7 6	50 56 38 45	18 16†	33	1.32 2.96	- 1.78 - 0.80	0. 62 0. 75	0.0	11	13 13	10	3	sw.	Hampton Institute. James P. Scott.
Lexington Lynchburg New Castlejj New Castlejj Newport News Norfolk Petersburg Randolphjj Richmond Rocky Mount Saxe Spottaville (near) Williamsburg North Carolina Beaufort Belhaven Brewers Caroleen Chalybeate Springs Chapel Hill Charlotte Chimney Rock Clinton Durham (near)	Roekbridge. Campbell. Craig. Warwiek. Norfolk. Dinwiddie. Charlotte. Henrico. Franklin. Charlotte.	1,060	1	72.2		94	6		15†	35	1.70	*******	1.40 1.10	0.0	1	22	4	4		N. & W. Ry., Exp. Farm. T. J. Davis.
Norfolk Petersburg Randolphii Richmond Rocky Mount Saxe Spottsville (near) Williamsburg North Carolina Beaufort Belhaven Brewers Caroleen Chalybeate Springs Chapel Hill Charlotte Chimney Rock Clinton Durham (near)	Nortolk Dinwiddie Charlotte Henrico Franklin Charlotte		33	69.7 70.9	+ 3.3 + 2.2	93	6	38 44	16†	38	0.74	- 3.21 - 0.57	0.52 2.10	0.0	10	23 16	4 9	3 5	sw.	Virginia Military Institut U. S. Weather Bureau.
Norfolk Petersburg Randolphii Richmond Rocky Mount Saxe Spottsville (near) Williamsburg North Carolina Beaufort Belhaven Brewers Caroleen Chalybeate Springs Chapel Hill Charlotte Chimney Rock Clinton Durham (near)	Nortolk Dinwiddie Charlotte Henrico Franklin Charlotte	1,300	1 7	74.8			6	58	15†		3.34		1.14	0.0	5	15	8	7	ne.	Miss J. L. Martin. Ernest W. Sniffen.
Richmond. Rocky Mount. Sage. Spottsville (near). Williamsburg. North Carolina. Beaufort. Belhaven. Brewers. Caroleen. Chalybeate Springs. Chaple Hill Charlotte. Chimney Rock. Clinton. Durham (near).	Franklin	91	40	73.4	+ 1.7 + 3.8	92	6	58 48	18	20	0.89	- 2.96 - 1.60	0.72	0.0	6	15	7	8	ne.	U.S. Weather Bureau.
Richmond. Rocky Mount. Sage. Spottsville (near). Williamsburg. North Carolina. Beaufort. Belhaven. Brewers. Caroleen. Chalybeate Springs. Chaple Hill Charlotte. Chimney Rock. Clinton. Durham (near).	Franklin	334	23	75.0	+ 3.8	93	6	48	18	26	2. 12 3. 52	- 1.60	1. 20	0.0	8		****	***	e.	Central State Hospital. W. B. Spencer. U. S. Weather Bureau.
Sase Spottsville (near). Williamsburg. North Carolina. Beaufort Belhaven. Brewers. Caroleen. Chalybeate Springs. Chapel Hill Charlotte Chimney Rock. Clinton. Durham (near).	Charlotte	. 144	31 16	71.8 69.4	+ 1.0	93 92	6	48 42	18 17†	30	1.07	- 2.36 + 1.25	0.39	0.0	10	7	12	11	ne.	U. S. Weather Bureau. G. W. B. Hale.
Williamsburg. North Carolina. Beaufort Belhaven. Brewers. Caroleen. Chaly beate Springs. Chaple Hill Charlotte. Chimney Rock. Clinton. Durham (near).		350	7 22	72.0 71.2		95 93	6	40	18		1.56		0.69	0.0	4 5	18 12	5 10	7 8	ne. sw.	State Experiment Farm. B. W. Jones.
Beaufort Belhaven Brewers Caroleen Chaiybeate Springs Chapel Hill Charlotte Chimney Rock Clinton Durham (near)	James City	70	19	73.45	‡ 1.2 ‡ 4.3	94	6	45 51	18	27	1. 25	- 2.09 - 2.82	0.65	0.0	3				sw.	Eastern State Hospital.
Brewers Caroleen Chalybeate Springs Chapel Hill Charlotte Chimney Rock Clinton Durham (near)	Carteret	10	8	76.8		95	7	60	17	18	2.20		0.70	0.0	13	19	5		sw.	H. D. Aller.
Chalybeate Springs Chapel Hill Charlotte Chimney Rock Clinton Durham (near)	Reaufort	1,950	13	75.3 70.6	+ 1.4	95 91	6	54 42 48	171	29 41b	5.98 1.96	- 2.61	3.60 0.90	0.0	6	19 8b	2 15b	9 5b	w. w.	W. S. Hopkins. W. L. Brewer.
Chapel Hill Charlotte Chimney Rock Clinton Durham (near)	Rutherford	806 500	10	73.2	+ 1.4 + 1.2	93 93	6	48	17	34 35	2.23	- 2.61 - 1.79	0.75 3.38	0.0	8	12 20	15		sw. ne.	S. B. Tanner. J. A. Smith.
Clinton	Orange	500	52	73.00		94	9 7	48 51	18	30 •				0.0						Prof. A. H. Patterson.
Clinton	Rutherford	1, 150	34	73.1 71.9	+ 2.4	90 90	6 6†	48	16 17	26 314	3.34	- 0.33	0.96 1.16	0.0	11 10	10	15 13		ne. w.	U. S. Weather Bureau. J. M. Flack.
	Sampson	156	3	******	******	*****	****				1.73	*****	1.06	0.0	4					W. T. Boyette. Supt. Durham Water Co.
Enfield (near) Fayetteville			5 16	73.3	0.5	93 91	6	51 50	18	28	0.73	0.40	0.22	0.0	5 4	18	11 5	1	sw.	J. T. Elliott. E. R. Conger.
Fayetteville	Halifax	99	23	71.6	- 0.5		51		18†		1.93	- 0.60	1.20 0.98	0.0	5			***	ne.	T. S. Inborden.
	Wayne	170	40	75. 1 72. 9	+ 3.1 + 0.1	95 90	9 6†	50 51	17	31	2.47 5.60	- 1.83 + 1.02	0.83	0.0	5				w.	Frank Glover. Mrs. N. B. Taylor. Dr. W. R. Goley.
GrahamGreensboro	Alamance	500	8 29	73.2	+ 2.2	93	6	47	179	33	1. 15		0.35 1.62	0.0	7			***	ne.	Dr. W. R. Goley. A. R. Horry.
Greenville	Pitt	75	17	******	*******	*****					6.08	+ 0.23 + 1.11	4.34	0.0	7					R. M. Hearne.
Henderson	Vance	508	36 17	75.8 71.6	+ 1.1	87 90	6	47	19 16†	14 25	1.49	- 2.73 - 2.04	1.86 0.37	0.0	8	14 13	14 12	5	ne. ne.	U.S. Weather Bureau. Enoch Powell.
Kinston	Lenoir	1, 186	12 37	75. 1 71. 6	+ 1.9 + 4.9	95 92	6 5†	51 41	17	28 41	2.99 1.37	+ 0.47 - 3.21	1.56 0.45	0.0	6 7	10 24	12 5		n. s.	Enoch Powell. H. C. V. Peebles. G. M. Goforth.
exington	Davidson	810	5	70.8		91	6	44	18	33	4.77		2.06	0.0	9	19	6		w.	H. R. Berrier. S. P. Houser.
ouisburg	Franklin	375	19	71.8	+ 0.6	90	6	48	19	26	2.49	- 0.81	0.73	0.0	5	15	12	3	8.	T. B. Wilder.
umberton	Dare	102	27 5	75.7 74.6	+ 2.8	97 92	7† 6	46 57	18 25 17	41 25	3.71	- 2.53	0.55 1.30	0.0	6	21	5	4	ne.	B. M. Davis. U. S. Weather Bureau.
Marion	McDowell	1,425	18	72.0 72.8	+ 2.8 + 0.9	95 93 94 92	6	44 42 41 43	1 18 1			- 0.13 - 1.00	1. 10 0. 77	0.0	9 10	10 13	19		w. ne.	Sgt. Thomas McGuire. B. J. Utley.
Monroe	Union	586	16 23	73.4 71.0	+ 2.7 + 1.5	94	7 6	41	18 17 18	39	1.70	- 2.23 - 1.68	1.33	0.0	3 9 9	18 24	7 3	5	ne. se.	T. A. Ashcraft. H. D. Judd.
ft. Airy	Surry	1,048	22 13	70.6	+ 2.4	92	6	39		AR	9 54	_ 1 93	1 25	0.0	9 8	18	8		ne.	Prof. A. H. Merritt.
Nashville	Nash	. 190	6	73.3	*******	93	61	49	18	30	2. 21	+ 1.43	2.86 0.71	0.0	9	9	16	5	e.	J. W. Holland. J. B. Boddie.
Newbern	Moore	650	28	73.4	- 0.2	94 93	6	51 48	17†	34	5. 06 0. 73	+ 0.10	2. 24 0. 37	0.0	11	19	8		ne. w.	J. B. Hill. General Office.
Pittaboro	Chatham	480	19 39	72.4 73.4	+ 1.8 + 2.8	92 92 97	6	43 51	18	33 25	2.00	- 1.30 - 2.15	1.10	0.0	5	21	1 13	8	ne.	B. M. Poe. U. S. Weather Bureau.
Ramseur	Wake	442	3 5	73.4		97	6 7	40	18†	480	2.23		0.79	0.0	9	7	23		W.	A. H. York.
leidsville	Rockingham	828	11	73.40	+ 2.8	93	41	47	16†	33.	2.03 3.15	+ 0.40	0.62	0.0	8	14			nw.	J. R. Walton. E. M. Redd.
Rock House	Macon	3, 100	18	66.2 73.8	- 0.1 - 0.1	83 93	7 6	44	17	28 33°	5.77	- 0.88 - 1.03	1.46	0.0	14	10	16	4	е.	E. M. Redd. B. C. Hawkins. H. S. Ledbetter. W. H. Calcutt.
locky Mount	Naah. Person	105	12	*****		*****					0.55		0.32	0.0	6	***	***		****	W. H. Calcutt. N. Lunsford.
alem	Forsythe	. 1,000	15	70.2	- 0.6	91	6	44	18	33	3.43	+ 0.46	1.30	0.0	9					Doy H E Rondthales
alisbury	RowanStokes	. 900	26 18	73.8	+ 2.1 + 0.8	96 89	6 5	44	18 16 18	38 35	2.58	+ 1.80	1.05	0.0	5	15	3	12 :	w.	R. P. McAnnaly.
cotland Neckelma	Halifax	225	6 20	71.5		90	6	48	18	34	1.51		1. 16	0.0	8	9	8	13	ne.	Miss Thelma Wilkinson. R. P. McAnnaly. J. Y. Savage. Dr. R. J. Noble.
lettle	Iredell	700	14	71.7 74.6	+ 0.7 + 0.8	92	6	47	16	34 35	4.02	+ 0.90	1.28	0.0	8	11 14	10	0	ne.	C. H. Smith. D. M. Sholar.
loan	Greene	80	5	74.7		93	61	53 51	181	32	2.92		0.91	0.0	5	9	18	3 1	n. s.	L. J. H. Mewborn.
outhern Pines	Moore Brunswick	. 18	20 55 22 25	75.0 76.1	+ 1.1	93 94 92 93 94	6† 7 7 6 5	51 54 44 53	18 17	26	1.74	- 1.56 - 2.83	0.65 1.36	0.0	5		10	3 1	0.	Mrs. P. H. Beck. Mrs. C. E. Taylor.
tatesville	Iredell Edgecombe	950	22 25	72.0 75.2	- 0.8 + 2.8 + 2.3	93	6	44	18 17†	35	3.38	- 0.82	0.82	0.0	11		15 8 f	4 1	sw.	D. M. Thompson. E. V. Zoeller.
roy	Montgomery	800	1 .		*******	*****														Mrs. O. B. Deaton.
Vhiteville	HalifaxColumbus	. 50	38 5	75.0	+ 3.6	95	6†	49	18				1.05	0.0					n.	H. S. S. Cooper. Rev. C. C. Smith.
VillardVilmington	Pender New Hanover	51	39	74.4 75.0	+ 1.9	94	81	49 55	17	30 25	1.88		2. 16 0. 80	0.0	12	11 7	17		ne.	J. H. Jefferies. U. S. Weather Bureau.
South Carolina.	Caswell	. 690						*****					*****					- 1		U.S. Weather Bureau. A.Y. Kerr.
liken	AikenBarnwell	. 565	26	76.8		64	7	20						_	1			- 6		Dr. Hugge T. Wall
nderson	CATHWELL	100			+ 2.2	100	-	52	17	27	1.97	- 2.02	1.57	0.0	2	26	0	4	W.	A D Hier.
BatesburgBlackvilleBlairs	Anderson Lexington	. 764	26 22 9 22 22	76. 2 77. 5 ⁴ 75. 8	+ 0.3	100 97 95 99	7 7 7 6	52 48 49 49 50	17 18† 16 17 17	37	1. 97 5. 67 2. 50 5. 14	+ 2.02	1. 57 4. 00 1. 21 2. 23	0.0 0.0 0.0 0.0	5	26 16 194 19	0 8 0 ^d 3 6	6	W.	Dr. Huger T. Hall, A. R. Hiers. H. H. Russell. E. J. Hite. Miss M. E. Lange. John R. Ragsdale.

Table 1.—Climatological data for September, 1910. District No. 2.—Continued.

			E	Tem	perature,	in de	grees	Fahre	nheit.		Precipitation	, in ir	obes.	P 6		Sky		Hon.	
Stations.	Counties	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date. Greatest daily	5	Total. Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind	Observers.
outh Carolina - Cont'd.	Orangeburg	100	9	76.1		98	7	48	16 3		4.61	1.68	0.0	7	20	8	2	w.	B. O. Evans. M. L. Crisp.
alhoun Falls	Abbeville	222	17		*******					::	3. 25 - 0. 82 3. 72 - 0. 08	1.46 0.96	0.0	3 7 8 3	17	5 3	8 9	ne.	W. C. Brown. Jas. C. Faris.
tawba	York	562	5								2.60	1.85 1.60	0.0	3	18 20	0	10	n. w.	W. R. Zimmerman.
arleston	Charleston	48	40	77.2	+ 1.0	95	7	58 47 51 50	19 2	2	4.39 - 1.07 3.57 0.00	2.31 1.32	0.0	11 12	10	17 8	6	ne.	U. S. Weather Bureau J. H. Powe.
emson College	Chesterfield	. 850	22 19	75.0 72.8	+ 0.4	89	7	51	18 3 17† 2 18 3	8	6. 19 + 2.41	4.31	0.0	5	25	0	5	n.	Prof. John N. Hook. U. S. Weather Bureau
olumbia	Richland	. 351	23 18	75. 6 76. 1	+ 1.0 + 1.8 + 0.4 + 1.9 + 1.6	95 95 89 95 96	7 6	50 51	18 3 19 3	5	6. 19 + 2. 41 5. 17 + 1. 72 5. 21 + 0. 96	2.46 1.90	0.0	9	8 15	17	5 12	ne.	P. C. Quattlebaum. D. C. McCall.
nway	Darlington	175	15				7		18 3			1.55	0.0						D. C. McCall. A. E. Rowell.
llon fingham	Dillon	100	18	77.2	+ 2.6	99		47	10 0	- 1	3.72 + 0.15	1.30	0.0	5	22	1	77	8W.	H. B. McCall. Pierre Gaillard.
rguson	Berkeley	. 51	2	77.9	+ 3.1	103	7	48	18 4	ż.	3. 82 2. 32 - 1. 90	2. 10 0. 87	0.0	8	19	2 2	12	n. ne.	H. K. Gilbert.
orenceeorgetown	Georgetown	. 12	22 17	75.8	+ 3.1 + 0.2 + 2.7 + 3.9	93		48 54	17† 3	0	2.32 - 1.90 5.49 + 1.81 3.79 - 0.18 1.59 - 2.18	1.77 0.73	0.0	5 9	17	13	12	ne.	A. P. Hasard. Mrs. S. A. Crittenden
eenville	Greenville	989 671	18 22	73.0	+ 3.9	91 100	7 7 7 5	50 49	17 3	6	1.59 - 2.18	0.99	0.0	4	16	1	13	w.	M. M. Calhoun.
eath Springs	Lancaster	568	9 2	77.4	******	95	5	59	18 2	6	2.54	1.80	0.0	5					J. A. Weaner. W. E. Haskell, jr.
cksonboro	Williamsburg	. 54	22	76.8	+ 1.8 + 1.0	96	7	52		3	5.34 + 1.60	1.52	0.0	10	16 18	9	10	ne.	A. O. Matthews. Jno. T. Boggs.
bertyttle Mountain	Pickens	900	16 17	73.7 75.4	+ 1.0 + 0.3	96 94 94 97 97	7	48 52 47	15† 2	5 8	5.34 + 1.60 2.57 - 2.07 0.68 - 3.22	0.65 0.50	0.0	4	27	0	3	B.	Dr. J. M. Sease.
eriwether	Edgefield		1	73.8		97	6t 7	47	18 3 18 3	8	2.66 1.15 - 2.95	1.37 0.51	0.0	7	9	14	7	0.	W. S. Middleton. W. G. Peterson.
ewberry	Anderson		6 5	75.7	+ 1.8			*****	10 0		2.12	0.52	0.0	7 5	18	5	7	w.	W. G. Peterson. John M. Ward.
nopolis	Berkeley Dorchester	. 55	17	77.0	+ 2.0	94	7	50	19 3	3	1.68 - 2.80 2.12 - 1.96 4.63 + 1.14	1.00	0.0	6	26	0	4		Miss E. P. Ravenel G. F. Lewis.
. George	Calhoun	209	22 22 8	75.0	+ 2.0 + 0.5	90 97	51	50 54	18 2	15		1.70	0.0	9	19	0	11	е.	J. S. Wannamaker. Alvin Etheridge.
duda intue	Saluda Union		15	74.8m 75.6	+ 2.8	98	ét	46	18 3 18 3	7	0.97 - 2.40	0.38	0.0	7	12	14	4	e.	E. W. Jeter. W. G. Walker.
nith Mills	Williamsburg	62	15	73.8		92	6†	50	18 2	5	0.97 - 2.40 2.71 - 1.53 2.00 - 2.19 2.56 - 1.31 1.11 - 2.67 1.05 - 2.14	1.09	0.0	8	19	11	11 5	ne.	Major J. J. Lucas.
ciety Hill			19	77.2	+ 0.7	97	6	50 52 52	18 3	6	2.56 - 1.31	0.83	0.0	11	16	20	13	sw.	F. P. Robinson. Miss E. H. Gadsen.
mmerville	Dorchester		13	74.6 76.9	- 0.2 + 1.7	97 94 95	7 7	52 52	17† 3 18 2	9	1.05 - 2.14	0.59	0.0	2	15	14	î	8.	C. A. Long. Etsell Gaillard.
entonial	Berkeley	. 85	23	78.4		100			19 4	**	1.64	0.64	0.0	8	10	20	0		J. A. Westerberg.
alterboroinnsboro		545	21	75.0	+ 2.4 + 1.5	92	7 6† 6† 7	52	17 2	3	2.23 - 1.23	0.60	0.0	7	17 20	13	0 3	e. ne.	John W. Seigler. E. R. Rivers.
inthrop College	York	690	11 15	74. 2 75. 4	- 0.1	92 92 95	7	50 52 49 50	17 3 19 3	8	2.23 - 1.23 2.44 - 0.56 2.82 - 1.26	1.38	0.0	8	16	7	13		J. G. Hutson.
Georgia.			7								2.42	0.98	0.0	6	13	3	14	ne.	W. H. Calhoun.
beville	WilcoxBartow	. 772	18	74.00	+ 1.4	90	71	51	17† 2	80	4.74 + 1.52	4.02	0.0	4 7	1111	146	3b	ne.	. Dr. J. P. Bowdoin. Geo. C. Brosnan.
banylapaha	Dougherty	. 230	25 21 27 33	79.0	+ 1.4 + 1.3 + 2.5	97 98	7	54 54	18 3 18 3 18 3	5 3 8 6 4	0.77 - 3.18	1.20 0.22	0.0	5	7	13	10	nw.	James T. Austin.
mericus	Sumter	362	27	76.6	0.0	54	7	50	18 3	8	1.78 - 1.53 2.24 - 1.29	0.72	0.0	7	17	5	9 7	ne.	F. P. Harrold. C. D. Cox.
henslanta	ClarkeFulton	1, 218	45	74.5 75.1	+ 2.5 + 3.1 + 1.7 + 2.3	97 98 94 91 92 96	7 7 7 8 7 7	53 55	18 2 17 2	4	0.72 - 2.79	0.36	0.0	6	15	9	5	ne.	U. S. Weather Bureau U. S. Weather Bureau
igusta	Richmond	. 180	18	76.6 79.6	+ 1.7	96 100	7	54 51	18 3 18 3	9	1.99 - 2.23 2.87 - 1.13	1.35 1.20	0.0	5 7	23	0	7	W.	Mrs. C. O. Wimberley Prof. T. O. Galloway.
sinbridgesrnesville	Pike	. 875	2	75.4d		94 103	7	52 54	16t 2	7d	2.68	1.00	0.0	5	124	11d	3d 2a		
akely	Early Taylor	650	8	79.4	+ 2.3			*****			2.39	1.63	0.0	3 5	15	5	13 10	ne.	Mrs. Mamie F. Wallac J. A. Chapman.
amak	Warren	613	17	75.5	+ 1.1	96	71	46	18 3	9	4.08 - 0.17 1.97 - 0.46	1.60	0.0	4	15 17	9	4	w.	G. W. Evans. M. C. Power.
inton	Madison	557	17				7	49		8	1.32 - 2.43 3.23 - 1.83	1.32	0.0	5	20 20 21	0 7	10	e. w.	A. J. Duncan.
aytondumbus	Rabun		17 23 17	70.8	+ 2.3	96	7	43 52	18 3		2.83 - 0.49	0.76	0.0	9	21	4	5	ne.	A I Land
vington	Newton	. 800	17	78.0	+ 0.1	98	71	51		3	2.20 - 0.58	0.71	0.0	6	13 12	11	6	ne.	Mrs. Sarah E. Cruse. Prof. W. McMichael.
athbertahlonega	Randolph Lumpkin	1,519	18	72.3	+ 0.1 + 2.5 + 1.4	90 86	8 7	49	18 2	19	1.62 - 2.98 2.27 - 2.42	0.61 1.00	0.0	7 5	11	19	5	80.	Prof. B. P. Gaillard. R. A. Kimsey.
iamondublin	GilmerLaurens	2,020	20 16	70.0	+ 1.4	86		40			0.54 - 2.38	0.18	0.0	5	16	2	12	e.	R. A. Kimsey. Mrs. M. E. Martin. J. H. M. O'Sullivan.
udley	do		19	77.6	+ 3.8	98 103	61	51 52	18† 3 17 3	8	1.64 - 1.93	0.36	0.0	5	16 13	14 8	9	ne.	Miss A. M. Bohannon
stmantonton	Putnam		7	75.4			7	48	174 3	7	1 91	0.68	0.0	6 2	24	6	0	e.	Prof. W. C. Wright. H. A. Roebuck.
berton	Elbert	710	10	76.5 76.1	+ 2.3 + 2.2 + 2.0	96 96 94 99 92 91 95 94 96 98 98 99	7 7	51 54	17 3 17 2 18 3 18† 4	5	1. 15 - 2. 10 1. 40 - 1. 78 4. 19 + 1. 11 1. 65 - 2. 39 3. 15 - 0. 92	1.20	0.0	3	4	25	1		. Martin V. Calvin. Mrs. Eva T. Graham
ort Gaines	Clay	166	23 34 20	78.3 72.4	+ 2.0	99	7	50 47	18 3 18† 4	8	4.19 + 1.11 1.65 - 2.39	1.87 0.90	0.0	8	20 22	0	8	ne.	W. C. Walker.
inesville	Clay	1, 254	20	74.4	+ 1.4 + 1.3	91	61	51	18 3	2	3. 15 - 0. 92	2.09	0.0	6	10 17	17	3 0	w. e.	J. W. Casey. Wm. C. Barnard.
ennville	Tatnall		5 12	76.5	+ 2.9	95	8	53 50	18 3 18 3 18 3 18 3 17 3	4	4.21 + 0.62	1.43	0.0	7	17	8	8	n.	H. M. Ponder.
eensboro	Greene	. 598	8	75.9		96	7	49	1 17 3	7	2.77 - 0.39	1.23	0.0	6 7	15	8	7 12	e. ne.	R. L. Caldwell. V. P. Enloe.
iffin	Spalding Washington	975 245	21 12	74.8 75.3	+ 1.0	98	8 7	45	19 4	2	3.43 + 0.85	0.98	0.0	7	24 28	0	4 2	e. e.	A. W. J. Wood. Dr. W. I. Hatley.
artwell	Hart	838	2	78.0	+ 2.4	98	8	50	18 3	6	3.48 + 0.31	0.28 2.70	0.0	6	10	8	12		R. H. Wood.
elena	Telfair	260	3	79.4	******	100	87787	49	19 4	0	1.11	0. 67 3. 15	0.0	8	14	10	14	e. nw.	James D. Smith. Ralph A. Snow.
fayette	Walker	871	1	73.0 76.5	******	98	7	47	17† 3	8 8 7	1.45	0.40	0.0	9	15	6	9		B. J. DuBose. A. N. Mayes.
st Mountain	Cobb		10	75.6 75.6	+ 2.4 + 0.1	90 98 94 94	8 7	52 52	18 2 18 2	8	2.44 - 0.91 4.59 + 0.93	0.96	0.0	8	19 16	27	0	0.	J. C. Little.
mber City	Jefferson		. 2								1.49	0.84	0.0	6 5	16	3 26	11	0.	A. W. Latimer.
mpkin	Stewart	650	17	78.6 76.2	+ 1.8 + 0.6	98 94 97	7	55 52		18	$\begin{vmatrix} 3.19 & + 0.01 \\ 1.25 & - 2.73 \end{vmatrix}$	1.35 0.85	0.0	5	14	9	7	ne.	U.S. Weather Bureau
aconarshallville	Macon	500	33 18 12 22 23 5	76.6	- 0.3	97 100=	21†	52 46		6	2.50 - 0.46	0.84	0.0	5	6	19	5	w.	E. C. Bryan. T. J. Hudson.
ausy lled geville	Colquitt	276	22	80.7m -76.8	+ 2.2	94	7	51	18 3	3	1.94 - 1.90	0.59	0.0	5	19	1	10	ne.	Prof. O. M. Cone.
llen	Jenkins	158 292	23	77.6	+ 2.2 + 1.6	100	7	46		18	2.19 - 1.48 3.08	0.99	0.0	5 3 10	16	0	14	ne.	M. G. McComb. R. E. Fokes.
onterumaonticello	Jasper	800	14	76.7	+ 1.7	98	7	49	17 2	16	2.60 - 0.69	1.00	0.0			0	9		Miss Maude C. Penn W. J. Ragan.
organ	Calhoun	337 959	18 22	75.0	+ 1.5	98 92 94	7	50	122. 12		2.93 - 0.47 3.68 + 0.36	1.65 1.10	0.0	8 8 8	20	8 3 5	7	e.	Mrs. I. J. Milner. W. O. Medlock.
orcross	Gwinnett	1,078						*****			3.68 + 0.36 2.28 - 1.70	0.68	0.0	8	16 18	5	9		W. O. Medlock. C. M. Witcher.
int Peter	Oglethorpe	1,000	21	75.2	+ 2.8	95	7	48	18 3	16	E. UG - 1. /U	- E: UU	000				4	2000	

Table 1.—Climatological data for September, 1910. District No. 2—Continued.

			y.	Ten	perature	, in d	едтее	s Fah	renhe	it.	Prec	ipitatio	n, in ir	oches.	day		Sky.		lon.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	2	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind direction.	Observers.
Georgia—Cont'd.	Worth	368	19	77.6	+ 1.1	98	7	49	18	41	2.97	- 0.58	0.75	0.0	9	19	7	4		Dr. J. F. Wilson.
utnam	Marion		. 11	76.8	+ 0.3	100	6	48 49	18	38	0.40	-3.51	0.40	0.0	1 4	12 20	11 0	7	e. ne.	Mrs. J. M Collum. A. B. Jones.
uitman	Brooks	1, 363		72.4		97 89	23	53		37	1.84	- 3.79 - 1.42		0.0	9	15	11		ne.	D. E. Humphreys.
ceaca	Gordon	657	17	*****							3.30	+0.51	1.48	0.0	6	22	3	5	80.	D. A. Norton. W. M. Towers.
omet. George	Floyd Charlton	576		75. 2 78. 0		95 95	5	49 52		38	3. 22 0. 42	- 0.66	2, 20	0.0	6 7 2	20 21	5 9	5 0	e. ne.	A. N. Lund.
t. Marys	Camden	20	19	**11222								******		*****	0	****	10			David C. Sterling.
avannah	ChathamBulloch	253		76.7	+ 0.3 + 1.6	95	6	36	18	25 35	3.64 1.36	- 1.81 - 1.93	1.20 0.52	0.0	5 7	16	10 12	8	ne.	U.S. Weather Bureau J. C. Cromley.
albotton	Talbot	750		75. 8 75. 3	1 10 11.3	98 95	7	47	171	40 37	2.54	- 0.57 - 0.77	0.80	0.0	7 8	18	7	3 5	ne.	Dr. E. L. Bardwell.
allapoosahomasville	Haralson			77.9		96	71	50	18	33	2.35	-2.42	1.00	0.0	7	15	13	2 7	ne.	Elmer C. Bishop. U. S. Weather Bureau
00008	Stephens	1,050		73.3		90 100	22	53 55	17	27 41	2.25	- 2.20	0.75 2.00	0.0	7	23 16	0	7 12	0.	Mrs. Alice Starke.
aldostaalona	McIntosh			80.0		100	22	53	18 20	41		- 2.67	2.05	0.0	3	22	7	1	e. ee.	Miss Annie Twitty. J. M. Atwood.
ashington	Wilkes	630		77.0		96	7 7	53 50	17 18t	32	2.87	- 0.84 - 1.98	0.82	0.0	7 6	16 20	6	8 7	ne. ne.	Miss Ella B. Smith.
ayerossaynesboro	Ware Burke	86	19	76.5	+ 2.6	97	6	46	18	41	4.79	+1.80	1.70	0.0	6	17	3	10	0.	Thomas Sasser. Mrs. H. W. Blount.
est Point	Troup	620	22	77.0	+ 1.7	97 95	7 8	50 45	18 19	37	4.07	+ 1.04 + 0.69	1.60	0.0	7	18 12 ·	2 4*	10 11°	sw. ne.	E. N. Dunn. G. A. Wright.
oodbury	Meriwether				7 0.8							0.00							4861	
palachicola	Franklin			79.4 78.8		95 95	8 5	39 58	18 21	22 31	2.95 6.21		1.23	0.0	6	10	16	4	8. e.	G. H. Whiteside. C. S. Bushnell.
readia	De Soto	92	24	78.4	- 0.7	93	6	51	18	31	3.04	- 3.27	0.60	0.0	11					R. B. Hodgson.
von Park	De Soto	150	11	80.7	+ 0.6	95	51	63	20	27	2.26	-4.02	0.66	0.0	11	16	11	3	ne. ne.	O. R. Thacher.
ountstown	PolkCalhoun		13	******		97	27†				2.52	- 6.12	1.95	0.0	5		13	8	and.	Wm. Hood. C. L. Hobbs.
onifayookaville	Holmes	111		*****		*****		******							****	10				Wm. Rush. C. C. Peck.
arrabelle	Franklin	126		81.0 79.4	+ 1.6 + 1.4	100	8	55	18	28	1.39	-5.72 -2.15	1.65	0.0	5	18	10		ne.	J. J. Blomquist.
dar Keys	Levy	10	12	81.0	+ 1.7	93	51	63	19	21	2.42	-2.87	0.86	0.0	- 6	27	0		nw.	J. B. Lutterloh.
ermont eFuniak Springs	Lake Walton	105		81.8	+ 1.4	99	9†	60	19†	32	1.56	- 5.70	0.94	0.0	3	3	26		ne.	S. S. Fesler. R. W. Storrs.
eLand	Volusia	27		76.5	- 2.2	89	41	54	20	30	1.95		0.83	0.0	9	12	15		ne.	Dr. O. B. Webster.
deral Point	LakePutnam		17	80. 3 78. 6	+ 0.8	96 95	3	56 56	19†	36		- 6.58 - 4.21	0.28	0.0	8	25 16	3 11		ne.	C. T. Smith. E. S. Hubbard.
nholloway	Taylor	75	3	******	******							*******								Miss E. Wigglesworth
rnandina	Polk			77.2 80.3	+ 1.1	97	71	60 54	19 29	25 36	6.87 1.06	- 2.32 - 7.83	2.07 0.52	0.0	10	23 20	8	-	ne. ne.	W. B. C. Duryee. G. L. Broderick.
ort Myers	Lee	12	17	79.0	- 0.9	90	5	65	20	19	6.89	- 0.91	2.90	0.0	10	21	9		e.	Miss M. M. Gardner.
ort Pierce	St. Lucie			78.2 79.2	- 2.3 + 1.2	88 94	41 51	57	20 19	24		-4.71 -4.43	0.55	0.0	11 5	25	1	4	0.	T. J. O'Brien. J. P. H. Bell.
rasmerel	Orange	173	13	79.4	+ 0.2	95	51	54	20	36	1.10		0.35	0.0	6	25	5	49.		J. B. Escott.
illiardomestead	Nassau Dade	69	1	77.6		95 92	5† 17†	53 66	20 17†		1.16		0, 35 3, 41	0.0	6 18	10	23		80.	The Hilliard Co. W. J. Krone.
untington	Putnam	56		******										******						C. E. Walker.
ypoluxoverness	Palm Beach		8	81.3 79.4	+ 0.5	95 93	27 7†	66 54	21 20	24 35		- 6.53 - 5.02	1.53 0.45	0, 0	5	19	10 26		ne. ne.	G. A. Angevine, W. H. Miller,
ckeonville	Duval	101	37	78.6	+ 1.3	93	7	50	19	25		- 4.91	1.66	0.0	7	18	9		ne.	U. S. Weather Bureau
sperhnstown	Bradford	152	11	79.0	+ 0.4	96	5	54	19	34	1.53	- 4.27	0.38	0.0	8	19	11	0 .		G. W. Dunean. A. M. C. Brasch.
piter	Palm Beach	34	21	80.4	- 0.2	90	28	68	17	19	4.92	- 4.64	2.06	0.0	13	9	20		0.	U. S. Weather Bureau
ey West	Monroe Osceola		38 17	81.4 81.4	$\frac{-1.1}{+1.3}$	90	5	73 57	15 20			- 0.37 - 6.92	1.89 0.45	0.0	18	8 6 7	21	3	e. ne.	J. A. Simpson.
ke City	Columbia	. 210	20	78.6	- 0.1	95	61	53 53	19	36		- 4.90	0.16	0.0	4		16		ne.	W. B. Knight. D. O. Henry.
ve Oak	Suwanee Baker		13	81.8 78.4	- 0.2	100 94	8 5†	49	19		2.91 0.63	- 1.82 - 4.43	1.60 0.40	0.0	8 2	24	0	6 .		Griffing Bros. Co.
dison	Madison	200	6	76.5		98	7	54	18			- 5.02	0.47	0.0	5	4			ne.	E. J. Vann.
alabar	Manatee	24	17	80.8		97	20	61	20	36	2.94		0.78	0.0	7	21	8	1	se.	J. F. Farley. W. P. Fuller.
riana	Jackson	80	9	77.8		97	71	51 65	18		2.38	0.05	1.00	0.0	7	21 5	6 24		ne.	W. J. Watson.
ami	Brevard Dade		30 13	78. 2 81. 4	- 2.0 0.0	88 93	6† 5†	68	20 17			- 2.35 - 6.37	1.53	0.0	7	3	21		n. e.	F. Ulrich. E. V. Blackman.
ami (Subtrop. Gar.)	do	5		70 00	*******		10	***	****	90			1 20	0.0						Edwars Simmonds.
ddleburgblino	Clay Escambia	49	8	78.2° 77.2		95 97	10 23	52 49	18		2.78 3.35		1.30	0.0	5	23	6	1	8.	G. A. Chalker. W. H. Trimmer.
onticello	Jefferson	207	4	79.8		98	7 7 7	50 48	18		0.97		0.62	0.0	10	21	6		ne.	E. C. Potter.
wport	Gadsden Wakulla		5 8	77.0 76.4		98 94	7	50	18 18 .	27	3, 29		1.72	0.0		22	6		e.	Miss Addie Grubb. J. M. Ladd.
w Smyrna	Volusia	9	21	76.4	- 2.2	92	12	59	191		5.70	- 2.55	1.85	0.0	8 .					F. Nordman.
alaange City	MarionVolusia	98	22 19	79.8 78.0	+ 1.0	96 97	10 10†	54 50			1.85	- 5.22 - 5.12	0.48	0.0		21 19	6	2 .	0.	Dr. F. T. Schreiber. J. D. Graham.
ando	Orange	111	17	79.2	- 0.3	93 95 92	9	50	20	38	2.82	- 5.06 - 3.66	0.88	0.0	7	13	13	4 (e.	Jas. Thompson.
nsacola	Escambia	149	31 17	79. 4 78. 6	+ 1.5	92	8 4†	64 58			2.57	- 4.33	1.63	0.0	3	12 23	11 7		ne.	U. S. Weather Bureau E. B. Trask.
ckledge	Brevard	28	1	79.2		91	51	61			3.94	2 10	1.04	0.0	7	20	6	- 1	e.	Rev. J. H. White.
Andrew	Marion Washington	14	10	79. 64 81. 4	+ 3.7	94	8	56 70			7. 57	- 3.19 + 1.46	1.00	0.0	10	22	6		B.	Dunellon Phos. Co. W. A. Emmons.
Augustine	St. Johns	10	59	78.3	- 0.3	92	10	58			5.08	- 1.68	3. 15	0.0			10		B.	J. R. Palmer.
d Key Leo	Monroe	140	14	79.2	- 0.7	93	4	58	20	27	2.10	- 4.71	1.25	0.0	9	13	13	4 1	ne.	U. S. Weather Bureau. G. Schneider.
Leosuma Heightsj	Putnam	98	1	77.7		96	6	54	19	32	2.58 .	*****	1. 15	0.0	8		19		ne.	The Satsuma Co.
itserland	St. Johns	192	13	77.7° 77.4	+ 0.2 + 0.6	96 93 92	10 7†	56 56	19 18	28 28	5.71 -	- 2.79 - 2.63	1.30	0.0	7 .	19	5	6		W. C. Steele. W. H. Markham.
mpa	Hillsborough	79	24 19	90.4	+ 2.1	93	6	63	18	22	0.79	- 6.62	0.27	0.0	8	13	14	3 1	ne.	U.S. Weather Bureau.
rpon Springsusville	Brevard	20	16 17	80.0	- 0.6 + 2.3	96 98	7† 4†	58 59	20 20	27 29	2.67	- 4.86 - 6.03	0.73 1.20	0.0		22 10	8		W.	A. P. Albaugh. F. M. Taylor.
ussu	Washington		12									******				***				Curtis Jones.
Alabama.	Houston	105	5								0.84		0.44	0.0	4	20	7	3 4	ie.	James L. Willis.
niston	Calhoun	741	19	75.8	+ 4.5	93	8	80	18			- 0.38	1.48	0.0			14		10.	U.S. Weather Bureau.
villeburn	St. ClairLee	685	17 28	78.2		98	8	52	17	33	*****	*****	1.90	0.0	6	6	14	10 1	30.	George R. Cather. Dr. James T. Anderso
nton	Lowndes	149	9 .		+ 3.5	20					*****	- 0.08	4. 90	*****			***			S. T. Pruitt.
muda	Conecuh		23 22	77.9 77.4	+ 2.3	96	141	49 56	18 18	376	6.03 -	2.27	3.77 2.03	0.0	6	17 5	9 20	4 8 5 e	e.	M. J. Morris. U. S. Weather Bureau.

TABLE 1.—Climatological data for September, 1910. District No. 2—Continued.

			yrs	Tem	perature	e, in de	grees	Fah	renh	eit.	Preci	pitation	, in ir	ches.	day		Sky		lon.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind direction.	Observers.
Alabama-Cont'd.	Chathar	500	9		67.6						1.50		0.67	0.0	5	27	1	2		L. G. Privett.
alera	Shelby		9	76.4		96	21	50	18	40	1.59		1.58	0.0	4	21	4	5	e. e.	Dr. Lyman Ward.
dar Bluff	Cherokee	594	6	******	*******			****			3.30	*******	1.75	0.0	4	17	10	3		Joe L. Daniel.
ronelle	Mobile		22	78.8	+ 1.4	94	71	58		30	2.57	- 2.15	0.92	0.0	11	16	8	6	8.	George A. Maloney.
inton	Chilton	590	17	77.4	+ 2.5	95	8	49	18	35		+ 0.22	1.28	0.0	5	13 20	1 2	16	80.	Wallace C. Edler. E. L. Rose,
chranedova	Pickens Walker	334	19	76.8	+ 3.5	96	8	46	18	43	1.36 2.83	- 0.09	0.74	0.0	5	18	12	8	e. s.	Scott Maxwell.
lman	Cullman		2	75.8		95	22	47				*******	1.23	0.0	3	14	15	1	ne.	Eugene A. Grayot.
leville	Tallapoosa	760	5								0.30		0.30	0.0	1	16	6	8 7	e.	Dr. W. B. Fulton.
phne	Baldwin		19	78.6	+ 1.0	93	131	58	18	28*	3.77	- 2.53	1. 60	0.0	6	13	10		ne.	John H. Young.
nopolis	Marengo	200	18 26	75.0	- 1.0	93		50	18	34	2.84	+ 0.73 - 0.61	3. 14 1. 14	0.0	6	27 16	2	10	se. ne.	George E. Pegram. Dr. J. B. Whitlock.
aulargreen	Barbour		26	79.5	+ 3.3	100	7	50				- 1.20	0.98	0.0	7	23	ō	7	8.	Robert L. Whiteomb.
maton	Escambia		18	77.4	+ 1.0	93	2† 5†	49	18	36	3.35	- 0.12	1.70	0.0	7	17	0	13	8.	T. J. Farris.
t Deposit	Lowndes		26	78.2	+ 2.3	95	5†	55	17	31	0.82	- 1.77	0.50	0.0	7	24	5	1	sw.	J. F. Hattemer.
sden	Etowah.,		26 15	77.2 76.6	$+3.3 \\ +0.8$	94 95	22	51 49		33	2.64	- 0.80 + 0.36	0.76 1.72	0.0	4	19 27	1 0	10	ne. sw.	D. P. Goodhue. D. S. Brown.
dwater	Coosa		31	78. 2	+ 3.0	93	81	55	18	23		- 1.46	0.46	0.0	5	28	1	1	e.	W. E. W. Yerby.
nville	Butler	444	9	******	******			*****			0.82		0.32	0.0	4	27	0	3		E. M. Lewis.
nilton	Marion		14	79.0	+ 3.8	101	221	48		45	0.64	- 2.12	0.32	0.0	3	20 21	3	7	n.	Prof. H. O. Sargent.
hland Home	Crenshaw	160	18	78.4 78.2	+ 2.2 + 2.5	96	7	56 50		31		- 1.70 - 0.22	0, 20	0.0	5	21 26	0	5	ne.	Prof. Samuel Jordan. Robert L. King.
ngston			13	77.0	+ 2.9	97	74	43	19	41		- 0.63	0.90	0.0	7	23	0	4 7	n.	U. S. Engineers.
V	Houston		5																*****	A. L. Crosby.
le Grove	Cherokee		17	76.6	+ 3.6	97	8	40	16	36		- 2.34	0.74	0.0	5	10	20	0	ne.	Mrs. A. L. Awbrey.
tone	DeKalb	. 1,595	3			*****				****		*******	0.65	0.0	1	25	2	3	sw.	E. Mason.
tead	Macon	87	38	80. 2	1 2 7	95	22	61	18	25		- 3.95	0.48	0.0	5 8	20 11	10 17	0	ne.	Evie Oswalt. U. S. Weather Bureau.
iletgomery	Mobile Montgomery	240	38	78.4	+ 3.7 + 2.6	95	8	55	18	30	1.26	- 1.62	1.05	0.0	6	20	8	2 3	0.	Do
bern			17	79.1	+ 2.3	97	81	51	18	37	1.62	- 6.97	0.72	0.0	6	16	11	3	8.	Dr. J. Huggins.
onta		857	16	75.4	+ 2.6	92 95	81	45	18	39	4.14	+ 1.09	1.30	0.0	10	6	2	22	n.	Aquilla J. Ketchum.
ika			31	76.0	+ 1.4	95	21	52 54	17			- 0.12	1.40	0.0	6	18	3	9	e.	A. H. Read, jr.
k			10	78. 5 77. 0	+ 1.4	95 98	13	48	18	36°			0.73	0.0	4	19	10 13	0	8.	Miss Lucy Sellers. Jos. B. Bell.
tville			19	79.0	+ 3.3	101	8	47	18	42		- 0.20	1. 15	0.0	7	18	8	4	ne.	E. A. Carr.
18	Dallas	147	30	76.4	- 0.1	97	22 22	49	18	35	2.10	- 0.04	0.86	0.0	5	24	4	2	e.	Charles F. Brislin.
ng Hill	Mobile	. 312	6	80.0		97	22	58	18	30	1.13		0.49	0.0	7	7	10	13	n.	Spring Hill College.
adega			20 19			98	2†				2.25	$\begin{array}{c c} -0.43 \\ +1.76 \end{array}$	0.85 1.96	0.0	10	21 19	2 2	7 9	e.	Dr. Charles S. Northe P. A. Noble.
assee	Elmore	385	19	76.6	+ 0.5	95	14†	49	18	36		- 0.03	1.01	0.0	7	24	3	3	n.	J. G. Forster.
ř			2	78.9		100	14	55	171	34	0.68		6.35	0.0	5	19	8	3	e.	C. S. Tutwiler.
aloosa	Tuscaloosa	. 230	29	79.5	+ 4.1	98	8	54	18	34	0.61	- 2.25 + 0.96	0.34	0.0	4	24	0		8.	W. S. Wyman, jr.
kegee			10	79.2	+ 1.3	97	14	51	18	35	2.86	+ 0.96	0.95 1.60	0.0	7	7	28		n.	Prot. George W. Carve
on Springsontown			23 24	77.6	$+1.9 \\ +2.0$	94 98	8 22	54 53	18	29 33	3.24	+ 1.51 + 0.59	1. 66	0.0	4	15	23 15		e. nw.	P. L. Cowan. F. D. Stevens.
ey Head	DeKalb	1.031	25	75.9	+ 4.7	95	8	49	18	32		- 0.75	1.55	0.0	5	7	23		80.	M. T. Floyd, M. D.
ımpka	Elmore	205	18	79.5	+ 2.4	99	8	49	18	41	0.60	- 1.92	0.33	0.0	5 3	24	0	6	0.	U. S. Engineers.
Mississippi.				WD 4			-			-	0.00	0.54	0.00	0.0		-	-			1 D G 16 1
rdeencultural College	Monroe Oktibbeha	210 424	22 20	78.4	+ 5.0	57	7	51	18	37	0. 22	- 2.54	0. 22	0.0	1	22	7	1	n.	L. D. Godfrey, jr. E. R. Lloyd.
St. Louis	Hancock	28	17	79.2	+ 0.3	96	81	64	20	29	6.53	+ 1.19	2.50	0.0	10	14	9	7	80.	Brother Stanislaus.
d	Harrison	24	19	80.0		98	81	60	19	29	4.47	- 2.10	1.10	0.0	11	16	9	5	50.	Brother Stanislaus. Miss M. Josie Pope.
neville	Prentiss	504	16	76.8	$^{+}$ 1.7 $^{+}$ 2.9	94	23	54	17	30	1.26	- 1.27	0.85	0.0	3	16	14		8.	Dr. D. T. Price.
khaven	Lincoln		22	79. 2	+ 2.8	99	22	53	18	36		+ 0.26	1. 28	0.0	9	17 22	7 3		w. nw.	W. J. Bee. N. R. Drummond.
mbia mbus	Marion		22	79.2	+ 3.3	99	51	48	18	42		- 2.42	0.50	0.0	2	18	9		se.	J. B. Love.
tal Springs	Copiah	468	18	78.0	+ 1.7	95	221	54	18	36	3.38	+ 0.35	1.50	0.0	10	20	10	0 .		D. H. Miller.
burg	Leake		5	77.5		98	22	48	18				0.35	0.0	5	16	14	0	g.	J. Y. Blocker.
rprise	Clarke	248	5	******	******	*****	****	*****	***	***	2.31		1.00 2.20	0.0	5	19	5	6	n.	J. B. Thompson. A. L. Summers.
iesburg	Itawamba		17	79.6	+ 2.1	100	8	626	101	356		- 0.17	1.98	0.0	5	19	2		n.	T. C. Spence.
enurst	Copiah	. 460	20	78.2	+ 1.5	98	22	52	18		6.74	+ 4.11	2.20	0.0	10	24	4	2	n.	J. D. Granberry.
ory	Newton	. 326	23	******							3. 15		1.54	0.0	6 2	16h	34	36		A. C. Hailey.
90h	Hinds	. 280	23 22	79.8 78.6	+ 3.7 + 4.3	99 95	23 8†	51 57	18 18				0.70 1.50	0.0	9	18 26	12		e. ne.	B. H. Klyce. Mrs. Eddie McNeel
Como	Scott		7	10.0	7 4.0	90	o.	91	10	20	2.20	0.02	4.00	0.0		20			ne.	C. Thigpen.
	Jones	. 241	7 6	78.8		97	81	50	18	37	2.26		0. 90	0.0	9 5	18	10	2	ne.	C. Thigpen. Thomas W. Flynt.
esville	Greene		16	79.4	+ 1.5	101	21	49	17†	416	1.89 -	- 2.90	0.60	0.0		22	5	3 .		Dr. Sam Pool. B. T. Webster.
ville	Winston	. 561	21	77.2	+ 2.2	98	221	51	18	39	1. 05 -	- 1.62	0.41	0.0	4 .	**	10			B. T. Webster.
eill	Pearl River Noxubee	. 230 185	7 22	78. 2 79. 2	+ 4.1	96 98	22 5†	56	18† 18	34 40			1.00 0.62	0.0		11 22	16 5		se. e.	Prof. E. B. Ferris. Finis E. Carleton.
iolia	Pike	415	14	78.2	Ŧ 1.4	96	22	50 52 51	18				0. 47	0.0	9		17	4	50.	Miss Ruby V. Roberts.
lian	Landerdale	. 375	20	77.2	+ 4.5	94	22 22	51	18		0.83 -	- 2.64	0.28	0.0	6	13	15	2	0.	U.S. Weather Bureau. L.C. Helms.
ill	Greene	. 76	5 .					****	140	40	2.48 .		0.86	0.0		20	3	7	n.	L. C. Helms.
ope	Lawrence	. 200	3	78.0	+ 4 2	93	24 13†	45 53	18 18		0.47		0.50	0.0	11 2	10	21		W.	Dr. G. A. Teunisson. D. H. Shell.
onaagoula	Chickasaw	311	22	78. 8 78. 5	+ 4.3	97 95	8	93	18	29			4. 15	0.0		13	5		n. s.	Frederick Hess.
iingtons.	Jackson Hancock	10	22	78.0	+ 0.5	95	8	57	19	316	5. 61 -	- 1.21	1.65	0.0	10	76	15b	66	50.	Miss Annette Koch.
erville	Kemper		5	78.5		100	22	48	18	42	4.36 .		1.85	0.0	6		16		sw.	I & Rea
outa	Clarke	. 197	5 .		******		****	40	****		2.76	0.00	1.22	0.0	6 .					Geo. A. Floyd.
nesborodland	Wayne	. 191						48	18		AL THOU		1. 06 0. 77	0.0		18	4.		n.	R. S. Burke. Tallahatchie Drain. C
Louisiana.	CHICKASAW	******	1 .	*****	****			*****		***	Me # #	******		0.0				***	*****	
River																				Geo. F. Bancks.

a, b, °, etc., indicate, respectively, I, 2, 3, etc., days missing from the record.

Precipitation included in that of the next measurement.

Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

Also on other dates.

Separate dates of falls not recorded.

Data are from standard instruments not supplied by the U. S. Weather Bureau.

Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

Estimated by observer.

Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

Table 2.—Daily precipitation for September, 1910. District No. 2, South Atlantic and east Gulf States.

Stations.	River basins.															Day	of	mon	th.													
ctations.	Alver banns.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Virginia.																					1	-							1			
ryonia	. James	- 12	2				. 15		- 4.4.0	. 90		. 10		FARA	T 10	****		****		T.	***		49	T	****	- * * *	***		****		. 22	
uchanan[]	do	56	5		1, 16	T.				18			1	1	.07	. 48							. 90				. 00					
llaville	. Chowan											-									***											
pe Henry	. Coast	15		64	T	T	00					T.		90	10	. 02				07	T .	33	08					Of			06	
arkeaville##	. Roanoke	. 54	. 12	. 22								. 10			.34	. 14															. 25	
olumbia	. James	10	. 02							T.		4		. 00	,02						-										T.	
anville	Roanoke	. 12. 694	Sec.	12. TH																												
ampton	do	00	. 62	.30						. 20						. 18				T.				T.								
ot Springs	James	40	. 02	. 36	. 58	. 03				. 07				. 33	.07											. 10	. 78			. 05		
or			1. 00	. 10									. 75																			
				. 52	. 03	. 02	. 01		A.v.s		T.	4000			.01											. 02	. 10	.01				
nehburg	do	. 12	1.86	. 24										90	. 18	. 682						. 256	. 6931					1			. 20	
wnort News	Coast	. 82	.00	. 08		1.12			- 12		.41			. 20	1. 14	. 24		****			03		***	****			. 10		T.			
orfolk	do		.01	. 00						T.	T.	T.			. 01	.06	T.			.01		.01										
tersburg				. 30		T.				. 62										Г.											T.	
ndolph	James		T.			1.						. 12		****	05	18	****			07	03	99	01			****	* + 2 +	****		****	. 32	****
cky Mount	. Roanoke	. 16	. 85	1.23	. 89					. 11		.05		. 03		.80												. 40	Sec. and		× 10 %	
10	do		. 60	. 05			. 22																								. 60	
ottsville (near) lliamsburg	James			. 18	****	****	* * * *		****	****	***	****	***		***	. 15	****	****		.04		. 02			****	****	***	****	I.	***	T.	***
North Carolina.				. 000																											-	
aufort	Bogue Sound			. 01							. 67	. 07	. 02		. 45	.02	. 02						. 10	.02	. 03			. 07	.70	. 02		
haven	Pungo Pedee Santee Cape Fear	89	.32 T	. 63	. 23				00		3.60	. 21		T						r			90			01	19	T		07	07	
roleen	Santee	. 23	.27	.11	.11				. 90	T.	. 10	. 00	****	.32		.34		***			10	***				.01	. 10			. 75	.01	
alybeate Springs	Cape Fear	1.02	.40	.03				T.		T.	3.38			.02		.02					1	. 12			T.					. 05	. 15	
apel Hill	Santeedo		90	***			. ***	****		****							***				00						***			40		
arlotteimpey Rock	do do		.09	. 00	. 11	.04	. *		04	34	. 13	****	***	. 17		39	****		***		.02	***	. 11			1. 16		****	****	10	.48	****
nton	Cape Fear															.00																
rham (near)	Neuse	10	. 10							. 52																					1.06	
gletown	Albemarle Sound	15	50	. 10						10	T.	T.			T.	. 18				Г.		65	.05	. 22	200						T.	
enton field (near)	Albemarie Sound . Tar	. 27	. 30	. 15	. 50					. 10	****	****	****	****	****	****		****				. 60	98	. 20	***			****		****		
retteville	Cape Fear	. 1. 10		. 83	. 01						. 36	, 01											01	T.						.08	. 01	
dsboro	Neuse	50	.05	1.70	T.	98					1.78	T.					T.			7	Г.		Γ. 1	. 57							99	
ham . ensboro .																							.03								. 10	
enville	TarPamilico SoundTar and RoanokeNeuseSantee	. 16		. 81	. 18						4.34				T.	. 01							Γ.	. 22	.36							
tteras	Pamlico Sound		. 03	. 19								.06			1.86													. 13	. 33			
nderson	Neuse	92	. 18	. 05							60	.08		. 27	T.	46						. 31		50							.31	
off	Santee	. 45	. 03	. 16	. 20					. 36				.11	.00	. 20								. 00			.06					
dington	Pedee																								en el							
colnton	Tar	. 10																														
uisburg	Lumber	10	All a	471	right.					0000	. 25			****		T.							01	T.	.28	. 55	****		****		T.	
nteo	Roanoke Sound	. 32		. 40		40.				1,30	. 60	1.00			, 09								- 1		1							· · · · · ·
rion ncure	Care Feer	. 97																														
nroe	Pedee		.37	. 00	T.	***	***			.30	1.03	.00		****	.00	. 00															T.	
rganton	Santee	1.21	. 11	. 53					.04	. 43	.09	****								1	Γ					. 01		T.		.02	. 03	
unt Airy unt Holly	Pedee	. 46	. 21	. 05	1.35	.06			· ·	. 24	1 00	.04		T.		00												. 12	.01	30		
ahville	Tar	. 46	. 06	. 68	.03						. 38	.02		****		T.	.16						26	.00		. 16				. 00		
wbern	Neuro	78		. 05							2. 22	.02	. 27			. 83	. 05					T	15	. 23	. 24				. 25			
ehurst	Lumber Cape Fear Neuse		. 16			. 37	***			****															. 10						. 10	SKE
sboroeigh	Neuse	34	.02	. 10			***		****	T	35			. 40	****	03			***			15	03	02	T.		****		****		. 18	***
meur	Cape Fear	. 30	.02	. 79	. 01					.01	. 05														.36	. 04					. 65	
ndleman	do	. 25	. 32	. 14		. 41					. 13				. 02	T							62	. 09 .							. 05 .	
daville k House	Savannah	1, 16	.00	. 40	.07	. 75 .	***	. 21	. 57	1. 20		. 03			. 07	. 15				. 9	r		1	02				17	. 40	1.06	. 15 .	***
kingham	Pedee		1, 60							. 10	. 25												12 .									
ky Mount	Tar	. 01	. 05	. 32						.08			****				.02						07	***								
boro	Roanoke	. 60	1.30	.89	.20	***	08	.01					****			.08	***	***	***		* 1			***	.08			****			.20	***
sbury	do	. 93	. 33 1	1.05	. 12	. 75			. 22		. 83				. 23																.50	
on	Roanoke		1.73	. 13	. 42 .		***								. 07										***						. 23 .	
tland Neck	Neuso		.09			***					.04	.01				. 001.					01		071	. 16 .								
le	Pedee	1.00	1. 28	T.	. 62		. 25	T.	. 25	T.				.21					***													
in	Cape Fear		. 66	. 05		and.														. 7	r	15 7	r.	. 67	. 26			. 05				
w Hill	Neuse	70	. 21 1	. 46	T					T	1.02					.14								. 09 .								***
thern Pines thport	Cape Feardo	1.				***			.22	1.	.02	.00			.19	.17	***		***			25		***	. 40 .		.07	T	T		. 60 .	***
esville	Pedee	.61	. 12	. 30	. 61			. 82	. 01	. 07	.06				. 15						11								T.	. 52	T.	
boro	Tar		.06	. 94		. 03					. 82					. 30	. 05 .	erel.		. 17			72 .	***	. 03						.01 .	
don##	Pedee	.51	.09	T				***			.00	.03	T		***	06	00	***			** **	1	05	***	17	***					***	***
teville	Waccamaw	.01	. 02	**	**	***	***			***	.00	. 03			***	. 50	. 00	***										***				
ard	Waccamaw Cape Fear		1. 89	. 53							. 11				. 03		***							. 08 2	. 08	T.						
nington	do	. 05	. 15	. 01		.00		. 800.		. 03	. 17	. 01			. 15								24					. 06			. 12	
coyville South Carolina.	Roanoke				0000																											
n	Edisto			. 40							. 57					***																
ndale	Savannah			. 10	.50							. 97																. 10		4	.00	
erson	do	. 52		. 04			1	. 21		***	.07	***	***		***	***					27		2 2	. 03						. 34	.02 .	
kville	Edistodo	.00		.06	.00		* * * .	05			. 00	75	***		T		***	***				. 1		T.	04		***	T.		1		***
ra	Broad	. 60	1.82	. 54	. 08	222 0																										
man	Edisto	1.34								. 14 1	. 68	.06																		. 36 1		
ooun Falls					00	2.0 × 0	88+		***	***					40							22.00					***				08	
iden	Wateree	. 50	. 02	. 36	.06	***					. 85	T										02 .		. 68		10	***				. 95 .	
	Saluda		1	. 60						T.		. 24												80								***
ppells	OceanPedee													0.00		200	0.0									400	. 70		001	and.	a call	

Table 2.—Daily precipitation for September, 1910. District No. 2—Continued.

Stations. South Carolina—Cont'd	River basins.	1	2			-		-	-			_					-			-	-	T		T	T	T	1	1			_
Clemson College Columbia Conway Oarlington				3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19 20	2	21 22	21	24	25	26	27	28	29	30	31
Clemson College Columbia Conway Oarlington																					1		T	1	T						
Conway	Savannah Congaree Waccamaw	4.31			T.					. 24		. 56		84											9	3			. 15		
arlington	Waccamaw	03		1.90					. 13		1.80	. 85	. 05									07	. T		2	0	18	T.			
Gngham	Pedee								****		34				7			* * * *					2 000						****	.07	
erguson	Lynches		. 33					. 00				. 78										T	1.	10 .4	0 .3	0				. 97	
The same of the sa	Little Pedee Lynches Santee Pedee	90		2. 10					21		1. 12	06			T	.11						T	1	6					. 10	. 87	
eorgetown	OceanSaludado			1.56		****			.01		T.				. 80	1. 16								T			1.7			. 20	
roon ville	Saludado	73	. 02	. 20	. 59	T.			. 49		10					. 20						25		11					****	. 34	
reenwood	Wateres		40		1						1												Mile	- U	B				1 4 400	* 247	
kaomboro	Edisto								****	50		77	1 50				07	****		***			1 3	7		2	0		****	.45	
ingstree	Savannah	60	772	65	0.5			- 201				I KN		1							Mail.		4	100					. 400	. 10	
ittle Mountain	Saluda Savannah		.04	. 10							. 04																		.00		
eriwether	Saluda .	1.10	10	10													.01					13 . 5	1 .0)2							
elser	do	52				****			***		- 42				. 30								16		6	11	6		.06		
inopolis	Cooper Edisto Santee Saluda			. 17	1.00							. 22	. 32			. 31														. 10	
t. Matthews	Santee	43		. 20	.02						2.03	. 80			. 27				* * * * *		2	******		11 -1						1.70	
aluda	Broad		. 08	Secen	Benzal	2 × × ×			***	× (BC)		C X X X	X X X A	DAKE S	3 × 5 ×	EX 20 20 A	DECK O'N'	0.888	* * * * * *	0 5 X 5 5 5 1	108 4	a series		1	0 T			. 03		. 13	
mith Mills	73. 1	0.4										43.1									- 2	1	6	15 T	T		1.0	.03	. 88	.05	
partanburg	Broad	82	. 31	. 02		. 83			. 20	T.				.04	. 28	T.							1.0	12		1	1			89	
ummerville	Ashley		T.	. 14	. 03				. 01	69	. 03	. 10			. 11	T.				** **			T			.0	1 . 3	01		.06	
renton	Edisto	1.	T.	. 22		****		****	***	. 03																					
alterboro	Santee		.01	. 25		. 18	***	95		40	. 29	. 64	T.	+ x * x	. 31					* * + × * *			. 10)3 T			T.		****	.50	***
innsboro	Catawba		. 22	. 13	T.			. 20		T.	. 91			. 17									1.0)5				. 01		.06	
emassee	Combahee			1.38	.07							. 25				. 00								8	88	.0	4 .0	. 01			
Georgia.	Ocmulgee Coosa Flint Allapaha Flint		T.	. 33						T.	. 78	. 98		. 18													0				
dairsville	Coosa	4. 02										70					19			T				38		0	. 1				
lbany	Allanaha	30	.00	1. 20	****			***	. 15	****		.13	. 18													2	2 .0	9			
mericus	Flint	46		. 60						. 42	. 30															T			95		
thens	Oconee Chattahoochee Savannah Flint	1.45	. 05	.31	. 02	***		****	.04		T.			****		T.				***		***						. 20	. 16		
ugusta	Savannah	T.	. 28	. 06				T.	***	1.35						****				T					T	: :::			. 02	. 28	
ainbridge	Flint	30	T.	. 20	T.		***	***	. 45	2.06			. 15			****	1.20	****	****		05	T			0	5	T.	T.	T.	. 08	
lakely	do		. 85							. 08		. 13	1.00			T.	. 51														
utler	Flint			. 53	1 60			***			1. 63	43							****	***			100		1				. 95	T.	
anton	Coosa		1.05	. 12	T.				T.		. 68											T								. 12	
arlton	Savannah	T			90					T					****	08							1	10			T.	T.	. 98	. 63	
olumbus	Chattahoochee	32		. 45	. 42				***	. 71	. 60	.08					II.			***		T)2 .					. 02		. 05	
ovington	Ocmulgee	15		1. 20	.40							90										201					* * *		. 20	. 05	
uthbert	do	26	.43					***	****	. 08	****	. 30								T	01	. 32		23				T.	. 24		
Diamond	Tennessee	1.00	.04	. 18	10				T.		04		T	T						T.		T		1	8 .5	T	1	T.	T.	.46	
ublin	Tennessee Oconeedo		.36	.10	. 10		***			T.	. 22	****										05 .1	8		T	T.	T.		T.		,
astman	Ocmulgee Oconee	T.	. 03	T.				***		04	T.	T.	. 08	. 09								. 04		T		.0	T.		.05		
atonton	Savannah	20	.21	. 23	. 03			***		.03							****			. T										T.	
lbertonxperimentort Gaines	Chattahoochee		· · ·						****	. 10		40	Tr.	***	+××*					T		. 10						T.	1.20		***
ainesville	do		.15	. 20			****	***	***	. 10	. 10	. 40	1.							3				20					. 05	. 85	
illsville	Oconee	10	. 43					. 02		. 11		10	1 00			70							. 2.0	99	i T		0 1	T.	T.	. 40	
lennville ore	Altamaha	1.43		T.		T.			. 38	. 14		. 12			. 67	I.				T									1.05	. 04	
reensboro	Oconee	39		. 43	. 10			***			T.	. 62																	2.00	. 85	
riffin arrison	Chattahoochee		.98	. 16				***	***	. 40	. 70	T.	***	* * * *			***				11		8						. 30		
artwell	Savannah	16									9.7	770													4				.28	94	****
awkinsville	Ocmulgee	24	T.	T. 04	.02 T.	****			T.	. 03	. 00	T.	. 03	T.	+×+×	***	T.			***		09 T	T		. T.	6	7 .0	. 01			
afavette	Tennessee	73	2.45			. 22			2.34	.81			Lexes		Lines									1	3	2	0		.42		
ishon	Savannah	40	14	0.2			100	- 01		1 196	23			1	D	Sec. and		Leve v											. 15	. 05	
ouisville	Chattahoochee Ogeechee Ocmulgee Chattahoochee		. 46	. 60						1.72											10			1	8				1.23		
umber City	Ocmulgee		1.35	T.		****	****	***	. 78	. 10	.18	. 84		. 02		T.					1	81	1				8 . 13 T.			T.	
acon	Ocmulgee			.04		****															12 .	81 Г. Т			. 0	4			. 84	. 01	
arshallville auzy	Flint	71	. 84	. 72	.01			* * * ×	****	T.	. 22			T.		***						r. T				T.			T.		
illedgeville	Suwanee Oconee	56			. 27						. 44	. 15				***													****	6.2	
illen ontesuma	OgeecheeFlint	34	29	1.04	39						. 90	.12	.09			***					. 1.	1	8							. 22	
onticello	Ocmulasa	05		30	73						. 300	. 05										.08							.00	1.00	
organ ewnan	FlintChattahoochee	13	1.65	90	90				1.28	. 55					***		***										1000		. 60	. 50	
orcross	do	36	. 68	. 14	. 26						. 00					***		****				. 08	Alex.			Acres			. 16	. 22	
pint Peter	Savannah																	****						11 0	3	1.1	6		2.05	****	
tnam	Flint			.40					. 10											***											
uitman	Suwanee Flint. Suwanee Coosadodo St. Marysdo		10						. 28	***				. 11							18		4			š 0	. 3	.04	. 68	.18	***
amsey	do	34	. 42	. 03			. 48	1.48	. 58	T.																	0	8	.40		
ome . . George	do	16	2, 20	T.			T.			. 44	. 30					00					12		1			T.	3		. 04	.06	
. Marys	St. Marys do Savannah Ogeechee Chattahoochee Coosa Ocklockonee Savannah															.00															
vannah	Savannah	28	T.	T.					.30	7	. 23	1.05	. 22		. 08	T.							7	T	T	1 .1	1.1	T.	T	. 50	****
atesboro	Chattahoochee		. 66	. 13	.02				T.	. 60	. 80	. 32	1.								12									. 12	
albotton	Cooss		. 58	. 80	. 14		. 03			. 03	. 08		780									F							. 60	. 03	

TABLE 2.—Daily precipitation for September, 1910. District No. 2—Continued.

634 - 44	Dina kada														I	ay	of n	nont	h.													
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Georgia-Cont'd.	4	1	T	T	T	T	T	T	T	T	T	T	T																		T	
aldosta.	Suwanee	**				-						. T.											***	0.08			****	2.00			. x x a	
Vashington	. Savannah	6	7	5	5 .6	17	1			*	0	6	1		****						T.						10	. 38			4	3
ayeross	Satilla Savannah Chattahoochee Plint	**												. 02		. 16						COD.			. 08	. 20	. 41	1.60				
Vaynesboro	. Chattahoochee	8		01.6	0 .0	7				1.0	1.7	0 .0										T.	10		T.	****	****	. x		T	1.5	
oodbury	. Flint	6	4	4	6					. 1.8	6																				. 8	
Florida.						1				9 4			1 40		4	op.	191						90				98					
readia	Peace Creek				1							. 11	42	. 19	1.	.11							. 20	T.		3. 26	.02	.19		. 33	1.5	
rchervon Park	. Wассанаява	0	0 .1	0 .0	5 .4	0			5	4	. 1	1							. 40				. 25			. 35		*41	. 20	.04		
artow	Peace Creek						T.				. 04	1 . 18	T.	.04			.01							. 43	. 24	T.	. 02	. 66	.06	1.00	. 30	
ountstown	Apalachicola					4																									10.	
onifay	Choctawhatchee	** ***															94															
arrabelle	Coast			1		1				1.3					. 10		1.45						***				. 10	. 20		. 64	1.60	
dar Keys	do						5	0	.8	6		. 12		. 31	.40											. 23			****			
ermont Funiak Springs	LOBBET CHARLES AND					* E * * * 1	· ·	* * * * * *				30		Sec. of									* × - 1				. 1PB	. 32				
Land	St. Johns			1	1	T.		1	1	1		1	. 08	.01			. 83	. 16						. 601	.04		. 15	.07			.01	****
atis deral Point	Lake St. Johns.					. T.					T.		T.											. 21	.04		. 28					
nholloway	Fenholloway		1		1				1	1				1					- 4	- 1		- 1	- 0			- 1	- 1					
rnandina	Coast Peace Creek								1.10	0 .00						. 11	1. 20	.04			***			. 20	. 03		3. 07	.04		****	.00	
rt Meadert Myers	Calographatches				9 7		· ·	-	T		T.	. 52		. 18		T.	. 05	T.					***	. 10		T.	T.		T.	. 05	.16	
rt Pierce	Indian	00	5	. 00	1.		1.		1.	. 10		. 10	.02	.40			.00	. 20			***		30	. 40	. 20	.50	***	.08		. 42	. 55	
inesville	Lake				T.	. 21				60					. 02	T.		T.					T.			. 23	T.	. 21				
aamere	Coast Peace Creek Caloosahatchee Indian Lake do Namau Coast St. Johns								00	8 00	T.	. 21		.06	30	T	. 08		***				***	25	. 28	T.	. 35	. 15	****	T.		
mestead	Coast	01	1				.4	9 . 02	.0	T.	. 10	1.86	. 10	.09	, 00	. 19		.41	. 41	.80	T.	. 05		. 39	.33	.36	.74	.05	1.04	T.		
ntington	St. Johns. Lake. Withlacoochee. St. Johns. Suwanee																															
verness	Withlaeoochee					. 21					99	1.53	. 15					. 38						45	. 14	. 07	. 16		. 12	. 30		
ksonville	St. Johns	00	1						T.							1. 60								.38	. 16	. 23	. 64	T.	T.		. 02	
per hnstown	Suwance														-:-																	
piter	Coast			. 31			.00	3 02			. 12	.01	37	39	. 14		47	88	***				11	17	00	. 20	. 12			30	. 25	
y West	CoastdoKissimmeeSuwaneedoSt. MarysSuwanee	T.	. 01	1 .08	T.	T.	.00	.06	.0	. 05	1.49	. 96	.47	T.	. 76	.03	.05	. 05				1	16	. 12	T.	.00	. 26		.74	.04	. 00	
simmeeke City	Suwapeo													T.			T.							. 03	T.	. 19		. 45	. 07	T.		
re Oak	do		1.60	0		. 10																										
cclenny	Suwanee St. Marys.	*								. 23				. 25			***											.40				
dison[]]	Indian						GEAT 1	1 1 1 1 1 1	2000		x x	T.		. 25	3 3 4 4	A 10'78 11	K R	x 5000 x	* * * * *			6 × 6 1	E S & B			* 0 * 1		4 44 5				
natee	Manadan	10000	4									. 10						.08							***	***	. 34	. 23		. 22	* * * *	****
rianna	A DBIBCDICOIS	- 99	21	1 11	10		T.			. 64			. 10	101		1911	00															
rritts Island	Indian Coast		T								op.	. 10	.09	. 75	00	1	.04	. 90					Г.	. 56 1	. 53	. 18	. 41	***		.02	. 02	
ami (Subtrop. Gar.).																														****	****	****
idleburg	St. Johns	* ****							. 38						× + + +	***								1	. 30		. 60		***		. 50	
linonticello	Aucilla	. 62						****	. 14	1.02	1.40	. 21	****		× * * *	***		***	****					T		T	21		. 32	. 40		****
unt Pleasant	Aucilla Apalachicola St. Marks		. 29					. 05	. 30	. 20			. 10		. 12	1	.72							. 40			. 10	.07				
w Smyrna	Coast			****			2 7 2 7	2 × 2 ×	2 8 2 3	SEAN	****	0.6 1 2	1122		428 0	.06		.96								1000			×			
dell'					1					. 28		T.				33		. 90 .	***	***			20		. 10	***	. 00 1	. 30	4	T.	****	
ando	do					T.											. 22							.34 .		T. 1	. 29 .					
sacola	Coast	0.9	1.63		(P)	8			282			T	.09 T	T.				T					P .	. 63	. 05	T.	. 75	. 20 .	***	T. .02	. 88	
nt City	Hillaboro	-														-	-									1	. 60	***	***	. 50	1.00	
ckledge	Indian	98							7	775	70		. 00	.75	***	T.	. 59 1	.04 .						.32	.70 .			. 25		T.	90	
Andrew	Coast	02	1.78	****					1.	1.19	1.	.76	1.00	T.	. 15		58						32	50	r.	51	.00	T.	***		73	
Augustine	do					****			T.				.05	.10			. 40						3.	15	62	. 10	66					
Leo	Withlacoochee	*											0.0										* * *									
Leosuma Heights	St. Johns	08					, ua	****	****	. 24	****	.03	. 20	27	***	08	04	***			***			15	20 .		56	. 05	***		1. 25	****
tserlandlahassee	do Withlacoochee St. Johns. do. Ocklocknee								. 08					.00	1	. 20	.02							35 .		3	88				. 09	
npa	Oeklocknee	. 18	1.30	. 05			10	. 05	T.	. 35	10	.08		10	**	.38	. 18	T						97		00		T.	T	T.		
pon Springs	QU										. 73	. 00	. 54	.01	**	.01	28					** **	** *	26	Γ.	01		***	4.	.40	. 00	
usville	Indian Choctawhatchee	* ***		T.		.07						.04																	. 25		.04	
Alabama.			****	****	****		****				****	****			***	***	***		***		**											
ga	Chattahooehee	. T.		. 02						. 36		T.	. 44			T.	02															
niston	Cooss	. 02	1.20	.04		. 05			T.	.06												30								.40		
ville	Tallapoosa		. 66	. 99	****	****	.01	****	.00	T.	T	.14	T.			***	90															
ton	Alabama																															
	Escambia		. 78	9 00		3.77				. 02	T.				r						7		1.	35			Γ.	T.		. 07		
ral	Black Warrior	1	. 10	. 67	****	.06	. 25			. 60	. 15		***	** -	X x 0	***				**	01			29	49				. 02	. 01		XXX
pra Hill	Tallapoosa		1.58						.04								60					. 7								. 15		
		1 1 200	2. 200	1.00				0000	0.00					2.0									συ ₁		0010							
aton []	Alabama		.00		,05	. 40	1, 2%			. 08	. 21	. 45	. 02	. 02										44	55	06						
hrane	Tombigbee										. 34														74				28			
dova	do do	. 20	1. 27			T.	T													7			58 .	08				P.	r.	70		
	I MIIMPOUSM	. 943	- 9/3	T.	T.		1.					T.		***		1	r						1.	43	* *			1.		T.	.30	
ohnenopolis	Coast	T.	. 45	. 45		. 63	. 16			T.	T.			T									. 7	r. 1.	60 .	48 7	r	1	r.	т.		
nopolis aula	Tombigbee Chattahooehee	.06	.04	7.4			. 34			00	.08	744	140												181.	96						
rgreen	Escambia						. 05			. 02	. 75	. 98	14				JU													.05	20	
maton	do	. 08	780					.06	.06	. 32	. 70	. 18											. 7	r				03	Γ.	98 .		
Liposit	Coosa	76	60	. 19	. 32		69	. 06	19															7	30							
dwater	do			. 90	. 82		- 92	.00	. 14	T.	. 90					7	r								d0	**				30	***	
ensboro	Black Warrior		. 45		. 04		. 13	.06			. 43														46							
nilton	Escambia			. 32		. 15																		15		20		20				
hland Home	Escambia	30 × 1 ×	. 18	. 22	* * * *		X 4 4 4		. 15				a nele	er ele e				vale.										1878	- 1			

. 883 - 879 - 00 - 879 - 00 - 879

TABLE 2.—Daily precipitation for September, 1910. District No. 2—Continued.

															1	Day	of n	nont	h.													
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Alabama-Cont'd.																																
vingston	Tombigbee Coosa Chattahoochee Coosa do Tallapoosa Coast Alabama Black Warrior do Tallapoosa		.06	. 46	05	07	. 19			90	. 57				****	1.8 8 8				****		10			. 90					50		
1CY	Chattahoochee				. 00							****				****						. 10						. 02				
aple Grove	Coosa	. 74	. 12	.06		T.	. 12		T.	T.									T.	T.		T.				T.			.06	T.		
entone	Tallanossa		****	26			26					40			****		1018					04				****				,	. 65	
obile	Coast	.04	. 12	T.		.06	. 30	****		. 03	T.	T.	. 24		T.	****				****	****	.04		T.	. 33	. 20	.02			****	****	****
ontgomery	Alabama		.11	.07		.01			. 01		1.05										T.									.01		
ewbern	Black Warrior	.06	T.	. 04		. 72				. 20						***		****		***	T.			. 35	. 25	****						
neonta	Tallapoosa	1. 22	, 18	10	. 12		****	. 40	. 39	. 05 T		49			****	***	1 40	****	****	* * X *	Ť.	.07	91	1.30	****		****	****	, 35	. 11	25	
ark	Tallapoesa Coast Alabama Tombigbee Alabama Coast Coosa Tallapoesa Tombigbee Escambia	***		. 75		****	***		****	.10		. 45		****	****	->->	1.40	****	****				. 21	****	****	****	****			.30	. 00	****
rattville	Alabama		. 77	. 43		. 80		***	. 05	T.					***							T.							T.	T.		
ushmataha	Tombigbee		. 18	.08	. 44	. 35					1.15											· · · ·			. 14	T.		****		.41		
pring Hill	Alabama	05	T.	. 14	. 60	06	. 34	****		19	. 86	***		40					* × * *			T.	****		90		01		Tr.	T	. 16	
alladega	Coosa	. 00		. 85	. 65	.00			****	. 14	***		****	. 920	- * * *		***	****	****	****	. 15	.30	****		. 20	****	.01		. 30	**	****	
11 0.0	Tallapoosa	1.96		. 96	. 52	. 02	. 04		****	.38		T.					. 07			****		. 10	.04								. 05	
homasville	Tombigbee		T.	1.01	.06	T.	T.	***			1.00	. 06		***							****			. 05	. 28		. 28					****
royuscaloosa	Black Warrior	***	. 30	09	20	. 02	T	****	****	.07	34	****			****							* × × *		****	05		****	. 11		. 13	***	***
uskegee	Tallapoosa	T.	. 75	.30	. 20	. 86	1.	****	****	***	. 01	****			. 95	****	1050	****		1.000	****	****	****	T.	.00	****	****		****			* * * *
nion Springs	do	.36		1.04	.10					. 22	T.	. 05					1.60														1.30	
niontown	Black Warrior	. 04		T.		. 70				. 84															1.66							
tumpka	Coosa	. 15	1.55	T.	****		10	T.		. 22		1414	4 × × +							****		. 29			****			T.	. 22	T.		****
Mississippi.	Tallapoosa Tombigbee Escambia Black Warrior Tallapoosa do Black Warrior Coosa do Tombigbee	. 00		. 14			. 10			***				***		43.48		****	****	****					****							****
berdeen	Tombigbee						. 22	T.																****					T.			
gricultural College	Coast																							****								
ay St. Louis	do	. 90	1.00		!	. 0.5				4. 10	. 178	. 40		1 1 1947	. 40		. 400								4. 00						80	
ooneville	Tombigbee	. 85	1.00	T.	.21	. 20	. 02	****	***	. 30	***		. 21	. 11	1888	***		****	****		****		****	****	* 40	. 11			. 14	- 2 7 2		
ookhaven	Tombigbee		.02	. 50		. 30	.02	1.28			1.07				T.									. 21	. 43				. 04			
olumbia	do		. 30	. 24	.08	.06		.06			. 24	T.			T.									***	. 74	1.76	.06		CON.	+ x + +		
olumbus	Poorl	T.	10		03	96	1 60				67	- * * *	14		****			****	***	***					. 25	06	. 50	****	10			
dinburg	do	T.	. 15	.09	. 00	.07	1.00		****	T.	. 35		T.		****		****	****		****	****	. 08	4 4 7 7	T.	.09	.00		T.	T.			
nterprise	Chickasawhay		. 60	.08			. 05				1.00			. 08											. 50							
ulton	Tombigbee		. 50		2. 20		.02			. 12																			. 12			
attiesburg	Chickasawhay Tombigbee Leaf Pearl		T.			29	09	. 44			1.98	. 32	. 46					****			1.00		***		1. 10	. 26	17		02		****	
ickory	Chickasawhay		. 85	. 01	.10	. 34	1.54	1. 22		74	2, 20	. 02	.02	100		+.4.4.4		****	****	4440	***	T		****	. 12		.11		. 90		****	
ckson	Pearl	T.	. 13	T.	. 10		T.	.04		.70	T.		T.		T.									. 40				. 32	T.			
ke	do		T.	The last							701														1 50					7		
ike Como	Leafdo		70	T	· ·	18	40	Tr.		00	10	01	96		01	****				***				90	T			* * * *	05		***	1.25.0
akesville	Chickasawhay		4.	1.	1.	. 13	60	1.	****	. 90	. 55	. 15	. 20	****	.01					***	***			. 50	4.	.00	****	+××+	.00	****		
uisville	Chickasawhaydodo		. 05			.40																		. 41				. 22				
Neill	do	1.00	. 90	. 20	. 18		. 10	***		. 44	.02	.02											T.	. 12	. 13							
acon	Tombigbee	T.	04	. 26	T.	01	T	. 14		90	. 62	. 28	.17	70			****						T	rgp.	10			19	· Tr	T.	****	***
ridian	Chickasawhay Pascagoula Pearl	20	04	. 40	T	.04	1.	1.		28		. 21	.03	4.					****	****			*.	. 26	T.			. 10	*			
errill	Pascagoula			. 20	. 10	.28	.08				. 86	. 10											!	. 34		. 42	. 10					
onticello	Pearl		.37	. 50	. 04	.01				.02	. 08	. 01			. 01								. 23	.08		.01						
colona	Tombigbee		1722	122		***	. 40						****	****		****							***	1.427	00	00			. 07	(40)		
scagoula	Pearl	1.00	21	. 04	. 47	T.	.01	***		1. 65	***	. 11	****	. 90	. 18		. 63		****	** 5.	****				. 39	. 03			****		.07	
orterville	Tombigbee	. 80	. 63							. 82					. 40		. 00					T.		. 10	1. 85	. 16						
ubuta	Chickasawhay			1.22	.02	***					. 58	. 24													. 26			cere		. 44	+ x + x	
aynesboro	Pearl Tombigbee Chickasawhaydo Tombigbee		T.	. 05	. 15	. 45	. 05	. 86		1	1.06	. 02		T.		. 05									. 20	. 30				. 40		+ * * +
Louisiana.	Tombigbee				****	. 11		***					****																* - × -			
arl River	Pearl		. 58	10	T	. 10	TP	80			26	00	16	10											24	10		T				

TABLE 3.—Maximum and minimum temperatures at selected stations, September, 1910. District No. 2, South Atlantic and east Gulf States.

					ginia.												1910. North	-									T	ย่
		Lynchburg.		Norfolk.		Riehmond.		Sare.		Charlotte.		Edenton.		Fayetteville.		Hatteras.		Newbern. 14		Raleigh.		Reidsville.		Salisbury.		Wilmington.		Charleston, S. C
Date	Max	. Min.	Max	Min.	Max	. Min	Max	Min.	Max	Min	Max	Min	Max	Min.	Max	Min	Max	Min.	Max	Min.	Max	Min.	Max	Min.	Max.	Min	Max	. Mi
1 2 3 4 5	86 85 83 89 91	70 67 66 67 69	86 77 85 89 90	70 70 70 72 72 73	85 77 84 90 91	69 68 69 69 70	77 78 86 91 94	66 67 69 65 68	85 87 83 88 89	67 70 70 70 70	86 84 86 88 91	68 67 67 71 72	88 90 86 92 93	70 70 70 70 70 71	84 85 85 85 85 85	75 74 73 77 78	89 88 89 92 93	69 70 68 70 71	86 87 83 90 91	70 70 70 71 72	88 90 84 93 92	66 67 67 67 68	89 90 92 93 92	70 67 67 68 74	86 86 83 90 89	73 72 72 73 75	87 89 85 89 88	77 74 73 77
6 7 8 9 10	93 89 87 86 68	72 69 63 66 62	92 87 85 88 75	75 73 72 70 68	93 89 86 89 74	74 71 66 68 62	95 91 91 92 71	67 61 61 61	90 88 90 86 71	72 70 68 69 60	91 90 86 90 85	73 72 66 70 65	94 93 91 95 74	72 74 70 70 65	85 86 87 86 82	77 75 73 73 74	94 93 91 92 83	71 71 68 69 65	92 90 89 90 72	74 74 69 69 63	93 92 92 90	68 69 64 66	96 91 92 90 75	68 69 63 65 54	92 94 86 90 82	74 72 72 72 69 68	92 95 86 88 82	77 76 78 74 73
11 12 13 14 15	76 81 86 74 72	61 67 64 59 53	76 77 79 80 68	70 68 68 65 61	78 83 83 70 73	66 65 64 61 53	83 86 87 76 74	63 67 60 67 55	81 83 87 81 70	62 64 65 68 58	81 82 83 81 75	65 63 58 60 58	85 86 87 86 75	67 68 67 60	81 79 79 81 76	74 71 71 70 69	84 84 85 78 69	66 65 59 60 63	83 85 85 82 69	65 67 66 67 56	87	54	91 86 90 81 74	63 71 65 63 58	84 83 84 83 72	69 68 66 69 65	84 83 86 84 79	72 74 72 72 66
16 17 18 19 20	72 72 78 80 81	47 45 42 58 62	70 70 76 70 82	64 60 58 60 63	73 74 78 71 83	52 51 48 60 62	71 76 81 82 88	42 50 40 52 59	72 71 77 82 86	51 51 51 58 65	72 73 74 69 89	52 52 50 50 63	76 76 79 84 88	52 50 58 53 63	72 72 71 76 80	67 66 65 64 70	75 74 72 78 87	53 51 53 51 51 53	72 73 75 81 83	52 51 54 56 65	75 76 82 85 87	47 47 49 56 63	75 75 80 83 88	44 45 45 48 50	74 74 72 82 84	57 55 56 57 65	76 75 77 80 84	64 61 60 58 66
21 22 23 24 28	86 75 73 82 83	60 62 63 62 62	87 75 80 81 80	67 67 68 66	85 76 80 84 83	61 64 62 66 62	90 84 82 88 88	54 64 64 60 61	86 81 85 86 83	66 64 65 65 64	83 81 82 81 79	65 63 60 62 58	93 86 86 89 86	63 65 65 64 65	81 82 80 70 78	73 72 71 72 70	89 86 84 82 78	61 64 64 65 62	85 81 82 83 81	64 64 65 65 65	90 80 82 82 82 87	62 62 62 67 62	88 86 87 88 87	62 63 63 66 66	86 84 83 79 81	71 69 68 68 66	85 82 81 82 81	74 73 68 72 69
26 27 28 29 30	85 85 84 73 85	60 61 62 56 60	82 83 81 72 74	62 63 67 64 62	85 85 82 75 72	61 62 60 54 55	91 88 87 87 68	56 58 57 57 57	86 85 84 73 73	64 64 65 60 61	80 81 83 78 73	56 56 52 52 52 54	89 83 90 76 77	59 62 62 58 62	81 81 78 76 75	68 70 70 68 67	85 77 86 80 79	60 62 64 62 59	83 82 86 76 68	62 62 64 61 62	89 87 88 72 69	60 62 55 63 60	88 90 87 79 79	69 60 59 60	80 78 85 80 79	65 67 65 66 64	82 77 85 82 80	69 69 67 70 71
Mns	80.7	61.4	79.9	66. 8	81.0	62, 5	84.1	59.8	82.3	63. 9	81.9	61.3	85.8	64.4	80.3	71.2	83.9	63.0	82. 2	64.5	85.3*	61.40	86.1	61.5	82.8	67.2	83. 5	70.
						Se	outh C	arolina													Geo	orgia.						
		Columbia.		and the same		Georgetown.	Commentille for		N	New Delly.		Society Hill.	100	Tues.		Admin av Inc. pg	Albany ff		Affants			vagasta.	DaMone	valuonella.	Macon			Savannah.
Date	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min
l	87 87 87 90 92	72 71 70 72 73	91 92 92 93 94	70 69 71 72 72	87 90 85 90 92	73 73 71 75 74	83 85 80 87 88	69 68 68 69	89 90 87 91 93	73 70 70 70 70 69	86 88 85 98 91	72 70 71 78 74	* * * * * * * * * * * * * * * * * * *		86 86 87 87 89	67 68 67 68 67	93 84 91 92 94	73 74 72 69 70	86 84 84 86 88	70 69 69 70 71	85 90 84 90 92	73 73 72 71 73	85 79 81 86 88	68 67 67 68 67	88 86 84 89 90	71 70 73 70 70	88 92 86 93 92	75 73 74 73 74
	93 95 90 91 82	73 75 72 69 68	96 95 91 94 88	73 74 74 73 38	92 93 86 89 84	72 78 74 71 68	90 91 87 87 71	69 69 68 70 67	95 97 92 89 82	71 71 71 72 68	92 92 89 91 74	68 68			90 90 88 82	67 66 68 64	96 97 95 88 90	72 74 73 70 69	90 91 92 88 82	71 73 70 69 67	93 96 91 90 83	74 74 76 69 68	88 89 90 83 77	66 68 66 66 63	94 94 90 90 83	71 72 72 71 70	91 95 89 88 85	74 74 73 73 69
	83 85 89 85 73	66 67 66 68 62	86 85 87 87 70	66 66 67	85 84 85 84 78	70 69 68 69 66	80 87 87 84 69	63 64 65 67 60	84 86 91 88 77	65 68 65 68 60	82 83 80 82 69	65 62 64	******		83 88 88 87 79	66 65 64 67 65	92 88 89 95 90	71 70 70 68 72	80 85 89 90 74	64 67 67 70 63	82 87 89 88 75	69 68 70 62	78 83 87 85 76	63 66 63 68 64	82 87 89 90 78	70 68 67 68 65	84 83 87 87 80	68 70 69 68 66
	75 74 79 85 89	56 53 50 54 64	77 77 73 86 89	58 52 52 51 63	74 74 74 84 86	60 54 54 54 64	73 74 78 83 87	55 55 50 52 67	76 76 82 87 91	54 50 47 51 63	73 73 75 81 84	50 63			80 79 78 79	62 51 51 52 58	79 80 82 88 95	62 57 54 55 60	76 76 78 81 86	59 55 60 57 65	76 75 80 85 90	62 57 54 55 63	73 74 77 80 85	58 52 49 51 60	77 76 81 87 93	62 55 52 53 62	76 75 78 83 88	61 58 56 58 63
	90 86 84 86 84	68 67 66 65 65	90 87 87 87 83	67 67 66 66	85 86 82 84 84	64 68 68 68 66	87 85 81 85 84	64 64 66 63 64	93 89 84 86 85	64 64 67 64 64	87 84 80 84 82	66 63 65	* * * * * * * * *			61 64 62	96 95 91 90 89	65 65 70 69 60	91 88 84 84 84	68 67 67 65 64	89 89 85 86 85	67 69 66 67	86 83 78 80 81	59 59 66 62 65	91 91 85 84 84	64 64 70 67 66	89 84 82 84 81	67 71 70 69 68
	85 85 89	63 67 64	82 78 87	63 68 63	82 78 84	66 68 65	86 86 87	62 62 62	86 86 90	61 64 62	82 82 85	62		*****	86 86 85	62 60 63	88 87 92	68 69	85 86 87	65 66	86 85	63 67	83 83	61 59	85 86	64 65	81 78	67 68

Table 3.—Maximum and minimum temperatures at selected stations, September, 1910. District No. 2—Continued.

			Geo	rgia.													Flo	rida.										
		Thomasville.		Wayerom. §		West Point.		Avon Park.		Fort Meyers.		Gainesville. §§		Jacksonville.		Jupiter.		Key West.		Miami.		Orlando.		Pensacola.		Tallahassee. §§		Tampa.
Date.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min
1 2 3 4 5	91 90 91 92 95	72 70 69 69 68	94 92 93 96 96	71 72 72 72 70 72	88 88 90 92 93	71 72 70 70 70	91 91 92 94 95	73 70 70 70 72 72	89 88 88 89 90	72 71 72 74 71	90 91 92 93 94	74 72 72 72 72 72 72	90 90 90 90 90 92	76 75 77 76 75	87 87 87 88 88	79 79 75 75 75 79	88 88 87 88 90	80 76 79 80 78	89 90 90 92 93	74 77 76 76 76 78	91 90 91 92 91	72 72 71 71 72 71	83 81 86 86 86	72 74 80 80 81	85 84 87 86 88	72 74 70 71 72	91 91 92 92 93	74 74 73 75 74
6 7 8 9	94 96 94 90 92	70 72 69 68 68	98 99 95 96 95	73 73 74 74 74 72	95 97 96 86 89	70 68 69 69 67	94 91 92 95 93	75 75 71 70 73	85 88 88 89 88	73 74 74 73 74	94 94 93 91 92	74 71 72 69	92 93 90 90 90	76 74 72 74 76	87 89 88 87 87	79 77 79 78 80	88 89 88 88 86	79 80 78 76 74	92 88 92 92 92 86	76 76 78 76 76	91 91 90 93 92	72 71 68 69 71	86 90 95 88 86	78 75 77 73 71	90 92 91 88 87	72 73 70 68 69	93 92 92 92 91	76 74 73 74 75
11 12 13 14	89 89 88 93 89	68 72 60 66 67	93 90 92 94 87	72 71 69 66 68	80 87 89 93 89	70 67 67 67 67	85 92 88 90 90	74 75 73 70 72	80 86 87 86 87	75 73 73 73 73 71	92 91 89 90 90	73 74 73 69 69	89 87 86 88 87	75 77 74 70 70	82 86 84 88 87	72 72 71 73 70	81 86 87 86 83	74 74 78 73 74	81 89 89 89 90	71 76 76 72 71	90 90 88 88 88	72 75 73 69 69	86 87 87 90 90	75 73 75 76 76	88 88 86 91 86	70 73 72 69 70	86 91 90 89 88	73 75 71 70 72
16 17 18 19	78 80 81 86 91	65 57 50 53 61	81 83 88 93	65 58 50 50 57	78 78 84 86 93	65 61 50 53 56	89 85 87 87 90	70 71 66 64 63	87 82 83 82 82	72 70 69 67 65	83 83 83 84 88	70 66 58 57 60	78 78 79 81 87	67 64 61 59 62	89 84 84 84 84	70 68 72 68 69	88 85 85 84 84	76 76 76 76 76 77	91 92 85 86 88	71 68 70 72 73	89 82 85 85 88	74 71 64 58 50	79 79 80 83 85	72 68 64 68 71	77 79 80 83 88	67 62 56 60 63	87 80 85 83 86	73 68 63 63 64
21 22 23 24	95 94 89 87 81	68 65 70 68 68	96 93 89 90 87	63 65 64 66 69	95 93 86 88 88	64 55 67 66 63	90 91 92 88 90	67 64 72 72 72 72	85 87 88 86 86	67 70 73 74 73	92 93 87 88 85	61 67 69 70 71	90 87 82 84 85	71 71 70 69 70	86 88 84 84 87	69 76 76 74 76	84 86 85 86 88	75 76 74 76 75	88 88 88 87 88	70 72 73 73 73 72	89 90 87 86 86	63 64 71 71 71	91 88 84 83 84	74 75 73 70 70	92 90 87 85 78	64 67 70 69 69	89 90 90 88 87	68 70 72 72 72 72
26 27 28 19	86 85 88 89 88	69 69 65 63 68	84 88 89 89 91	69 66 62 67	88 90 94 79 87	63 62 62 64 64	93 90 90 90 89	72 68 74 75 73	85 87 88 88 88	70 71 74 78 71	87 87 87 90 88	72 70 69 69 70	77 84 84 84 84 82	78 71 70 67 71	88 89 90 89 83	77 73 76 72 72	85 89 87 87 87	77 78 77 76 77	89 92 92 93 91	73 72 71 73 73	91 89 89 89 87	72 72 72 72 72 72 70	84 82 85 86 86	70 71 73 70 71	85 84 87 87 86	70 70 69 68 69	89 88 91 88 90	71 70 73 73 73 72
Mns	89.0	66.5	91.1	67.0	88.6	65.3	90, 5	70.9	86.3	71.7	89.4	69. 1	86.2	71.1	86.6	74.2	88.4	76.5	89.3	73.5	89.0	60.4	85.5	73.2	86. 2	68. 6	89.1	71.6

								Alab	ama.											Missi	saippi.			
Date.		Anniston.		Bermuda.		Birmingham.		Eufaula. §§		Mobile.		Montgomery.		Tuscaloosa. §§		Uniontown.		Columbus.		Hattiesburg. II		Jackson.		Meridian.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
2 2 3 4 5	87	70 70 71 71 71	93 89 91 91 87	70 73 70 69 70	90 89 87 88 88	72 71 71 71 71 73	88 85 87 87 89	71 71 70 68 68	86 83 87 87 87	76 75 76 76 78	92 86 88 91 92	72 72 72 72 72 72 72	94 93 93 92 93	73 72 72 72 73 74	80 87 90 91 92	71 72 72 72 69 71	95 96 95 98 99	70 72 71 71 71 72	86 93 95 94 95	72 68 69 71 72	92 97 95 96 96	74 71 72 73 74	86 90 90 92 90	73 70 72 72 72 74
6	93 93 89	69 68 67 66 63	93 95 94 81 92	68 68 70 72 66	89 90 94 91 85	72 73 71 68 67	90 92 93 81 87	69 68 68 67 64	88 94 95 89 89	76 74 75 72 70	91 94 95 88 89	71 71 73 72 68	95 97 98 97 93	73 73 68 68 68	92 95 95 95 95 89	70 70 68 66 68	98 99 98 95 93	73 70 66 67 66	95 98 100 97 91	70 72 67 70 66	95 98 97 97 91	73 70 70 69 68	90 92 94 92 88	74 70 68 68 68
11	90 91	70 68 65 65 63	91 89 90 96 91	68 69 68 66 69	85 88 90 90 85	69 69 71 68 64	84 85 86 91 87	64 67 67 66 66	88 91 91 93 91	73 71 76 72 74	88 87 89 94 89	68 70 71 71 69	93 93 93 96 90	69 70 68 65	89 89 90 93 89	68 69 69 69 65	96 97 96 94 88	67 70 69 67 63	92 90 90 95 90	65 66 68 65 65	93 93 92 96 89	69 69 70 67 67	88 88 89 93 87	65 69 69 67 66
16	78 80 82 86	61 57 50 54 60	80 82 86 90 94	69 55 49 54 59	81 81 84 88 91	64 57 56 60 64	76 77 78 82 88	60 53 50 53 54	79 83 83 89 91	71 67 61 64 69	78 78 85 87 93	65 57 55 60 65	84 86 88 91 94	65 55 54 59 60	83 82 86 90 94	67 54 53 60 63	87 86 90 93 95	60 51 48 52 55	86 90 89 95 96	62 63 62	89 86 90 94 96	60 59 51 55 60	81 80 84 89 92	63 57 51 56 61
21	85 87	61 62 68 66 62	96 95 93	64 64 65	91 92 89 88 89	65 68 66 66 68	91 89 86 84 84	59 63 65 64 63	92 95 90 90 88	70 72 73 72 69	92 94 90 88 88	67 69 70 68 66	95 97 95 92 91	62 65 67 65 65	95 98 92 88 89	74 67 65 65 67	98 98 99 93 94	58 61 62 62 63	94 98 96 89 92	62 63 65 64 65	97 99 99 89 94	61 64 65 64 61	93 94 92 85 87	63 66 65 65 63
28	88 89 90 80 84	62 61 60 65 66	88 90 93 90 92	64 62 64 64 63	88 89 84 84 86	67 68 63 63 65	85 85 87 88 87	64 63 64 65 64	89 90 89 87 89	68 69 71 68 71	88 89 91 85 90	65 65 69 64	93 92 88 92 92	65 65 64 62 62	88 90 91 91 91 89	65 64 65 65 64	94 93 92 91 93	63 63 65 61 51	92 92 93 92 92	64 65 66 65 66	95 94 90 94 93	63 64 67 64 61	88 88 85 88 89	63 63 64 64 65
Means		64.4	90.4	65.4	87.8	67.0	86.0	63. 9	88. 8	71.6	89.0	67.8	92.7	66.3	90.4	66.5	94.4	64.0	92. 9	66.41	93.8	65.8	88. 8	65.7

Climatological Data for September, 1910. DISTRICT No. 3, OHIO VALLEY.

FERDINAND J. WALZ, District Editor.

GENERAL SUMMARY.

The general weather conditions prevailing during the month of September over the Ohio Valley were characterized as follows: There was an unusually large number of rainy days, rain falling on 20 to 25 days of the month over considerable areas. The amount of rainfall, however, was light and generally below normal over the southern portion of the district, and moderate to heavy according to locality in the northern and eastern por-tions of the district. There was an unusually large number of thunderstorms in practically all sections of the district, but they were particularly numerous in the central portion. thunderstorms were of daily occurrence during the first 8 days, and in the period 23d to 27th, inclusive, and considerable damage resulted therefrom in the various localities, although it was not extensive at any one time or place. The weather was decidedly warmer than usual in all of the States south of the Ohio River, except in portions of Kentucky. Over the section north of the Ohio River and the greater portion of Kentucky the temperatures were generally seasonable and no extremes of importance were experienced. The most important temperature feature of the month was the cool wave which prevailed from the 13th to the 17th, when light frost formed in the mountain sections and at many places in the northern portion of the district, and freezing temperatures were registered at a few places.

There was considerable cloudiness and sunshine was somewhat deficient, but, considered as a whole, the month was favorable

for general work and the development of the crops.

No important general barometric disturbances passed over the district during the month. High pressure largely dominated and only two or three ill-defined low pressure areas appeared.

The rivers in Pennsylvania were quite low during part of the month. In West Virginia also they were unusually low and navigation was practically suspended during part of the month. Navigation was closed on the Tennessee River above Chattanooga after the 19th and on the Cumberland River above Nashville nearly all of the month.

The droughty conditions which had prevailed for some time in Ohio were relieved by showers early in the month and again in the latter part. Abundant moisture was very beneficial to pastures and greatly improved the corn crop in Illionois and Indiana. Pastures were green at the end of the month in both of those States and in Kentucky, and winter wheat was in fine condition, although in some places the ground was too wet for plowing.

TEMPERATURE.

Except over a portion of Illinois, where there was a slight deficiency, the temperature for the month averaged above normal generally, the excess ranging between 1° and 4°. In the portion of the district north of the Ohio River and in northern Kentucky the general temperature conditions varied but little from normal and were ideal for the promotion of work and the maturing of crops. In Indiana maximum temperatures of 90° or over were registered on one or two dates at a few stations in the central and southern counties, but over the rest of the State the maximum temperatures did not exceed 88°, while in southwestern Virginia the highest temperature for the month was 86°. West Virginia, western Kentucky, Tennessee, and along the southern border of the district, however, the month was unusually and continuously warm. At several stations in northern Alabama the temperature averaged the highest for any September with only one exception during the past 28 years. In Tennessee it was the third warmest and in West Virginia it was the fourth warmest September on record. These unusual conditions, however, were due to continuous moderately high temperatures, and not to extreme heat. In Tennessee there were but three or four days when the average daily temperature was not above normal.

The temperature during the first 8 days of the month was from 1° to 8° above normal over practically the whole of the district. A cool wave prevailed over the northern portion and as far south as central Kentucky on the 9th and 10th, when the temperatures were from 4° to 10° below normal. Another warm wave prevailed during the period 11th to 13th, which in turn was succeeded by a cool wave from the 14th to 17th, when the coolest weather of the month occurred over most of the district. During this period light frosts formed in the mountain section from Pennsylvania to North Carolina, and at a number of places in the States north of the Ohio River. Freezing temperature was reported from one or two places each in New York, Maryland, and southwestern Virginia, while minimum temperatures ranging between 33° and 38° were registered in the other States of the district except Illinois, where the lowest temperature of the month was 40°, and in northern Georgia and Alabama, where it was 45° and 47°, respectively. After the 19th the temperature was generally above normal, except that it was slightly below on the 28th in portions of Ohio, Indiana, Illinois, and Kentucky.

PRECIPITATION.

There was an unusually large number of rainy days in all parts of the district, except in the extreme southern portion. In several of the Ohio Valley States rain fell more or less generally on 20 to 25 days of the month. The daily amounts, however, were mostly small in the southern portion of the district, and the total for the month averaged somewhat below normal in Tennessee, western North Carolina, and in the northern portions of Georgia and Alabama. The rainfall in southwestern Virginia was below normal over the headwaters of the New River, but considerably in excess over the headwaters of the Tennessee River. Over the rest of the district there was a marked difference in the amount of rain received in the various localities of the several States, although it was generally above normal. The greatest rainfall at any place in the district was 10.83 inches at Sumner, Ill. Amounts ranging between 5 and 9 inches occurred in central Kentucky and over the lower and upper portions of the Wabash watershed in Illinois and Indiana, and between 5 and 7.5 inches occurred over the upper watershed of the Great Miami in west-central Ohio. There were also amounts ranging between 5 and 8.5 inches in the Mahoning and Allegheny River basins. Over the remainder of Indiana and Illinois the rainfall varied between 2.5 and 4.5 inches. was a general deficiency in the amount of rain received in western Kentucky, but still there was enough to prevent droughty conditions from prevailing. Over Ohio, except in the sections mentioned, the amount received varied considerably according to locality and ranged between 0.6 and 4.5 inches, being deficient at many stations and in excess at a few. The drought which had prevailed so largely in this State was broken by rains that occurred in the early part of the month, but conditions again became serious during the middle of the month in portions of the State, especially in the Muskingum Valley. At Youngstown, Ohio, the Republic Iron and Steel Company was compelled to suspend operations, owing to Crab Creek, the source of their water supply, going dry. The situation was relieved, however, water supply, going dry. The situation was relieved, however, by the heavy rains of the 24th and 25th. At Wooster, Wayne County, the total rainfall for the 124 days ending September 23 was only 3.18 inches. The rainfall was very irregularly distributed, both as to time and area, in West Virginia. In this State, while the number of rainy days was large, the major portion of the rainfall was received during the first half of the

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month. In fact, after the 15th conditions became somewhat 18-19th, doing a great deal of damage over a considerable area, droughty. In the central and mountain sections of the State the amount of rain received during the month was somewhat in excess, while in the southern portion and in the section border-

ing the Ohio River there was a considerable deficiency.

During the first 9 days of the month rain fell practically every day in all parts of the district, except in Georgia, where it was not so frequent. The rains during this period were quite heavy in Kentucky, West Virginia, Pennsylvania, and in the States north of the Ohio River. Moderate to heavy rains occurred again generally on the 12th and 13th, the 18th to 20th, and from the 24th to the 28th. In the latter period they were quite heavy in Pennsylvania, and in portions of Illinois, Ohio, and Kentucky. In several of the eastern counties of Ohio wheat ground was badly washed by the heavy rains of the 24th. Thunderstorms were unusually frequent for September, occurring almost daily during the first decade and again in the period from the 23d to the 27th. Local damage from wind, rain, or lightning attending these storms was of frequent occurrence, and in some instances considerable in amount. There were many fatalities from lightning and many instances of property being destroyed from the same cause. These storms were particularly numerous and destructive in Kentucky.

DAMAGE FROM STORMS AND LIGHTNING.

September 1.-A severe thunderstorm, attended by heavy rain, did considerable damage in Jefferson County (including Louisville), Ky.; several barns were struck by lightning and their contents destroyed. Several valuable horses and a number of head of valuable cattle were killed, and several people badly stunned by lightning

A violent wind and hailstorm did considerable damage in the eastern part of Henry County, Ky., on the same date.

September 2.—There was considerable damage from excessive rains in the central portion of Kentucky, 20 head of cattle being drowned near Falmouth, as a result of a cloudburst when between 4 and 5 inches of rain fell in less than one hour.

A youth was killed by lightning near Williamsburg.

September 6.—Lightning struck and destroyed a barn containing hay and farming implements near Owensboro, Ky.

September 7.—Three persons were badly shocked in Hamilton County, Tenn., and a farmer was killed by lightning at Oakland City, Ind.

September 8.-A violent windstorm, with tornado characteristics, did minor damage near Golconda, Ill.

A violent windstorm occurred near Lafayette, Ga., in the afternoon, doing considerable damage, especially to trees. During the storm a schoolhouse and four residences were destroyed by lightning.

September 9.—A barn and contents were destroyed by lightning in Shelby County, Ky.

September 13.—Lightning struck and destroyed a large barn and its contents, she property of Mr. Henry Bachtold, near Newport, Ky.; loss, \$15,000. Mr. Bachtold has had a remarkable experience with lightning. Both his residence and his barn have been burned twice within the past two years.

At Salvisa, Ky., a man who was carrying a crosscut saw on his shoulder was struck and instantly killed by lightning. saw was bent double, and another man who was walking near

was seriously injured by the bolt.

A man was killed by lightning in Greenbrier County, W. Va. September 17.—During a heavy storm a bolt of lightning struck the Baptist Church at Ewing, Ky., setting fire to and partially destroying the building.

September 19.—The residence of a young farmer living near Hillsboro, Henry County, Ky., was struck by lightning. The farmer was killed and his wife badly shocked.

A violent wind, electric, and rain storm passed over a large portion of the Blue Grass region of Kentucky during the night of the especially in the vicinities of Lexington and Paris. The following is a report by the Weather Bureau official at Lexington, Ky .:

Rain began in Lexington on the 18th at 7:30 p. m., and continued to 6 a. m., of of the 19th, amounting to 1.32 inch. From 8:45 a. m. to 2:45 p. m. of the 19th, 2.94 inches fell. During this period the duration of time in which precipitation was actually recorded was 14 hours 22 minutes, and the amount 4.26 inches. From about 9 a. m. to 10:20 a. m. the rainfall was very heavy, the record being 2.11 inches in the hour and 20 minutes. The nearest similar records were 4.45 inches on June 26-27, 1898, for the period of 24 hours, and 2.35 inches in 1 hour, 50 minutes on July 21-22, 1892. During the heavy rain on the morning of the 19th, the thunder was almost unceasing and the lightning intensely vivid. From 9 a. m. to 11 a. m. the clouds were so low and dense that artificial light was necessary in rooms naturally well lighted. This darkness, therefore, accentuated the brilliance of the lightning. The damage from lightning was not severe in any one case, but in the aggregate of many cases was great. Over 1,000 telephones were rendered inoperative in the city, and several head of live stock in various sections of the county were killed. The most spectacular damage was the injury to the new statue of Henry Clay in the Lexington cemetery, one of the hands and one of the legs being badly shattered. The old statue had been decapitated in a storm on July 22, 1903, and the new one had been put in place in the spring of this year. Storm sewers and natural water courses were quickly overflooded and the damage from the scouring of the rushing waters was very great, especially in all work of new construction. Portions of the main street of the city were under water from curb to curb for several hours. The electric plant of the power house of the street railway company was damaged to the extent that portions of the city were poorly lighted for several days.

On the same date at Midway, Ky., a farm residence occupied

On the same date at Midway, Ky., a farm residence occupied by a Mr. Charles Bowman and family was struck by lightning and badly wrecked. The bed in which Mr. and Mrs. Bowman were sleeping was practically torn to pieces, the bedpost shattered into splinters, and holes burned in the mattress, yet they escaped without injury other than being rendered unconscious for a time by the shock. All the windows, chimneys, and two sides of the house were demolished and much of the furniture damaged. Two children, who occupied a bed near a stairway which was destroyed, were also uninjured. The escape of the entire family from instant death under the circumstances seemed almost miraculous.

September 21.—Several tobacco and hay barns were struck

and destroyed by lightning in Grant County, Ky.

September 24.—Two residences were struck by lightning near
Danville, Ky. The buildings were destroyed and several persons stunned, 1 person being seriously injured. Lightning also struck a barn at Rowletts, Ky., doing considerable damage to the building; also a valuable mule and several other farm animals were killed. There was some minor damage done in

Louisville, Ky., by lightning the same day.

September 25.—Lightning killed a valuable brood mare and several head of stock near Lexington, and a number of valuable horses, mules, and other stock near Lebanon, Ky., also many

stacks of hay were burned.

Lightning struck the residence of Mr. E. D. Bourne, cooperative observer at Taylorsville, Ky., doing considerable damage and performing many freaks, but fortunately not injuring any of the family.

A cloudburst near Burnside did considerable damage to the

Queen and Crescent Railway tracks and trestles in that vicinity.

A man was killed by lightning at Donaldson, Tenn., while attending church services, and several others in the audience were badly stunned.

At Lexington, Tenn., one man was killed by lightning and two badly injured under a tree, where they had taken refuge from the storm.

September 29.—The Baptist Church, a public school building, and the buildings of a lumber company were struck by lightning and all partially destroyed at Charleston, Tenn.

ENGINEERING NOTES

A company has been organized to develop the water power of the Ocoee River in Polk County, Tenn. The project has been adequately financed and all the preliminaries, such as water

sites, rights of way, franchises, etc., have been secured and work will begin at once on the actual construction. The plans call for a power scheme which will provide 80,000 or more horsepower and will involve the expenditure of between \$3,000,000 and \$4,000,000. The power is to be converted into electric current and distributed to cities and towns in east Tennessee and north Georgia.

The Ocoee River threads its way through Beans Mountain in Polk County, and, by means of dams and reservoirs, a fall of nearly 300 feet will be secured at one place. The plans as now drawn provide for two dam sites. One will be near Parksville and the other in the Little Frog Mountain near Ducktown. It is proposed to generate from 30,000 to 40,000 horsepower at each of these dams.

A syndicate of New York capitalists recently paid \$100,000 for the falls property at Cumberland Falls, Ky. It is the intention

of the company to install proper machinery at the falls for the purpose of developing electric power, which will be transmitted to various towns throughout southern Kentucky.

An effort is being made to raise \$10,000 by private subscription for the purpose of building a levee to protect West Hickman, Ky. (situated on the Mississippi River), and the large factories located there, from the high waters that come practically every spring, and which cause the plants to shut down for several weeks each year, throwing 500 or more men out of work during the time, besides doing a great deal of damage to property. More than half the money has been subscribed, and it is thought that the balance will be in a short time, and work begun and the levee completed in time for the spring high water of 1911. The levee when built will join with the government levee, which is a short distance below the city limits.

Table 1.—Climatological data for September, 1910. District No. 3, Ohio Valley.

			Ė	Temp	erature,	in de	grees	Fahr	enheit.	Free	ipitation	, in in	ches.	days,		Sky.	tion.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date. Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Bo	Number of clear days.	Number of part- ly cloudy days. Number of	Prevailing wind	Observers.
New York. Allegany	Allegheny	1,800	4 16 13 2	61. 6 61. 2° 60. 2	+ 2.5 + 0.3	84 82 81	6 6	34 33 32	22 42 15 40 15† 41	6. 12 4. 22 3. 29 5. 26	+ 1.16 + 0.22	2.37 1.28 0.69 1.90	0. 0 0. 0 0. 0 0. 0	13 10 13 12	12 11 14	6 13 6 10	8.	Charles E. Whitney. Lowell Andrus. Dr. John W. Kales. John W. Alles.
Pennsylania. Aleppo Baldwin Claysville Franklin Greenville Indiana Johnstown Lycippus Pittaburg Saegerstown Skidmore Somerset Uniontown Warren	Greene. Butler Washington Venango. Mercer Indiana. Cambris. Westmoreland Allegheny. Crawford Lawrence Somerset. Fayette. Warren.	1, 135 1, 404 1, 127 955 950 1, 350 1, 184	10	65. 3 64. 2 68. 0 63. 6 69. 2 68. 6 67. 3 67. 6 61. 8 63. 9	- 0.4 + 1.6 + 5.4 + 3.2 + 0.5 + 0.9 - 0.2	87 82 91 85 88 93 89 86 86 85 85 85	5† 8 12 22 5 12 8 23 5 5 5 5	33 40 37 40 35 33 45 41 47 35 35 35	9 44 15† 30 15 40 17† 45 15 51 15† 32 29 32 15 23 15† 40 15 40 15 34	4.84 5.35 3.98 4.79 4.83 5.50 4.05 6.75 4.07 2.92	+ 1.15 + 2.08 + 0.45 + 1.54 + 2.19 + 3.02 + 0.29 + 0.98 - 0.86	0.95 2.15 0.95 1.24 2.02 1.24 0.82 1.17 1.82 1.40 3.10	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	6 13 10 13 9 10 11 10 10 12 6	17 5 12 11 15 11 13 11 8 21	6 7 19 6 13 5 1 18 8 7 12 5 11 8 8 14 1 8	W. W. DW. DW. S. SW. SW.	J. S. Hinerman. S. H. Templeton. E. T. Buchanan. F. E. Dixon. A. M. Orr. Rev. J. M. Welch. E. C. Lorents. Murray Forbes. U. S. Weather Bureau. J. G. Apple. W. H. Stoner. W. M. Schrock. Wm. Hunt. Anna Simpson.
Maryland. Deer Park. Grantville. Oakland.	do		. 16	63.1 63.0 62.8	+ 2.8 + 1.3 + 1.8	91 83 83	6† 5† 6†	32 36 32	10† 46 16 32 16† 39	3.43 2.90 3.65	+ 1.14 + 0.49 + 1.12	0. 64 1. 00 0. 92	0.0 0.0 0.0	10 8 14	11	11 8 14 5	w.	S. P. Specht. J. S. Miller. R. E. Weber.
West Virginia Bancroft Benckley Ben's Run Bluefield Buckhannon Cairo Central Station Charleston Creston Cuba Elkhorn Elkins Fairmont Glennville Grafton Green Sulphur Springs Hinton Huntingdon Lewisburg Logan Lost Creek Madison Marlinton Morgantown Morgantown Moundsville New Cumberland New Martinsville Nuttallburg Parkersburg Parsons Philippi Pickens Pineville Point Pleasant Powellton Robertsburg Ryan Ryan Ryan Rotrield Spencer Sutton	Raleigh Pleasants Mercer Upshur Ritchie Doddridge Kanawha Wirt Jackson McDowell Randolph Marion Gilmer Taylor Summers do Cabell Greenbrier Logan Harrison Boone Marion Pocahontas Monongalia Marshall Hancock Wetzel Fayette Wood Tucker Barbour Randolph Wyoming Mason Fayette Mercer Putnam Roane Wetzel Roane Wetzel Roane	. 622 2, 563 1, 472 667 900 598 612 1, 933 1, 940 855 1, 600 1, 400 2, 200 665 1, 033 7, 169 987 2, 169 987 2, 169 987 2, 785 1, 662 1, 192 2, 785 539 2, 469	15 200 8 111 244 100 9 188 111 18 22 211 100 8 100 117 118 122 111 118 222 111 118 222 111 118 222 111 118 119 119 119 119 119 119 119 119	70. 2 66. 8 71. 0 66. 5 66. 5 67. 0 67. 1 66. 2 65. 8 69. 9 68. 8 67. 8 71. 2 70. 5 66. 8 71. 2 70. 5 66. 0 71. 2 70. 6 66. 0 67. 8 64. 1 66. 0 67. 8 64. 0 67. 6 68. 0 68. 0 69. 0	*******		23 7 2 23 6 5 † 5 5 7 7 5 8 † 4 † 5 8 8 5 5 † 25 5 13 † 6 † 6 5 5 6 8 † 5 5 13 † 6 † 6 5 6 8 † 5 † 2 5 13 † 6 † 6 5 6 8 † 5 † 2 5 13 † 6 † 6 8 † 5 † 2 4 † 8	45 40 40 40 40 40 40 40 40 40 40 40 40 40	16 39 17 33 161 37 29 43 29 38 16 29 16 39 161 37 16 35 161 37 161 36 31 161 37 161 36 36 16 31 161 28 36 16 31 161 28 36 16 31 161 28 36 16 31 161 28 36 16 31 161 36 36 16 31 161 36 36 16 36 36 37 161 36 36 36 37 161 36 36 36 36 37 161 36 36 36 36 36 37 161 36 36 36 36 36 36 36 36 36 36 36 36 36	5. 16 1. 92 4. 98 3. 56 3. 34 3. 20 4. 75 2. 22 3. 29 5. 18 4. 27 5. 40 1. 27 3. 11 2. 10 4. 32 5. 35 6. 04	+ 1.83 + 1.12 - 0.34 + 0.09 + 2.12 + 0.84 + 1.04 + 2.32 + 1.80 + 3.20 + 0.60 + 1.15 + 2.80 + 1.15 + 2.80 + 1.15 + 2.28 - 0.27 + 1.10 - 0.39 + 1.39 + 0.39 + 1.39 - 0.29 - 0.54 + 3.20	1.36 1.07 2.37 1.35 1.48 0.97 2.00 0.43 0.81 0.71 0.50 1.32 0.78	0.0 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	10	4 211 22 22 14 18 1 15 11 11 14 6 6 6 6 6 16 17 724 17 16 12 22 13 13 11 8 7 7 19 13 13 13 13 13 13 13 13 13 13 13 15 16 16 16 17 18 18 18 18 18 18 18 18 18 18 18 18 18	9 8 7 m 3- 11 9 2 10 4 14 5 3 11 6 9 10 20 2 13 10 7 4 10° 2 5 12	W. W. SW. LW. SW. LW. SW. LW. SW. LW. SW. LW. W. LW. SW. LW. W. LW. SW. SW. SW. LW. W. SW. SW. SW. SW. SW. SW. SW. SW. SW	James Hill. John A. Ewart. J. D. Riggs. Norfolk & Western Ry. H. A. Darnall. Van A. Zevely. G. W. Sherwood. R. C. Hewes. J. M. Reed. C. T. Perry. J. J. Lincoln. U. S. Weather Bureau. H. Glenn Fleming. John Holt. John W. Snider. John W. Snider. John W. Dalton. J. B. Lavender, C. E. L. H. Hutchinson. Geo. T. Atgabrite. H. C. Ragland. Allen Smith. S. E. Bradley. Jas. A. Morgan. C. J. McCarty. Horace Atwood. J. E. Matthews. Frank S. Evans. Wm. Ankron. Stephen Tully. U. S. Weather Bureau. J. W. Swisher. J. D. Dadisman. Dr. J. L. Cunningham. W. V. Senter. U. J. Holmes. Dr. A. W. DeBell. H. Scott. E. P. Turley. Wm. E. Ryan. G. M. Whisler. A. M. McKown. J. E. Baughman. C. F. Dodge.
Terra Alta Union Valley Fork Webster Springs Wellsburg Weston Wheeling Williamson	Monroe Clay Webster Brooke Lewis	0.20	10 7 7 7 10 21 26 10	66. 1 68. 4 69. 0 66. 0 69. 4 68. 4 73. 0	+ 1.8	87 91 88 83 92 90 91	7 11 8 5 24 5 5†	36 40 42 44 40 43 50	17 42 16 44 18 38 15 24 19 40 15 35 16† 28	2.94 4.63 5.67	+ 1.38 + 2.16 + 1.35 -1.18	2.00 1.10 1.28 1.22 1.00 1.28 0.54	0.0 0.0 0.0 0.0 0.0 0.0	5 7 12 10 10 10 10	8 5 10 10 11 11	20 2 17 8 16 4 10 10 10 9 13 4	SW.	Shelton Clark. Miss Blanche Pierson. D. H. Hamrick. C. P. Waugh. Miss C. M. Davis. Miss M. B. Forsyth. J. F. Keyser.
Ohio. Amesville Bangorville Bellefontaine Bellefontaine Bellefontaine Canton Canton Cambridge Camp Dennison Canno Cardington Canton Cardington Chillicothe Circleville Clarington Columbus Coshotton Dayton Delaware Demos Dennison Frankfort	Athens. Richland Logan Knox. Harrison Guernsey Hamilton Tuscarawas Stark. Morrow Ross Hamilton Pickaway Monroe Franklin Coshocton Montgomery Delaware Belmont Tuscarawas	630 1,380 1,276 1,100 1,245 803 570 884 1,065 1,010 630 628 694 691 770 790 927 1,325 908	6 23 16 19 7 18 18 17 17 27 15 22 1 29 13 22 18 26	69. 4 67. 1 64. 8 64. 8 67. 2 68. 9 65. 0 66. 1 70. 2 68. 6 67. 6 67. 7 66. 7 67. 8 68. 3	+ 2.1 -1.4 + 0.2 + 2.0 - 0.3 + 1.4 + 1.0 + 0.8 + 1.2 + 1.2 + 1.7 + 0.3 + 0.6 + 1.8 + 1.8	93 89 86 88 88 89 91 88 89 92 90 88 89 92 90 88	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	37 42 40 37 43 43 38 39 37 50 43 45 46 40 40 40 37 41 34	29 45 10 35 15 35 10† 41 15 30 10† 38 17 40 15† 35 16 31 15 31 10 44 15 31 15 31 16 31 17 40 18	1. 03 3. 37 6. 89 4. 22 3. 47 3. 64 3. 31 1. 88 3. 30 2. 15 3. 50 2. 43 2. 30 3. 66 5. 93 3. 35 4. 40 5. 14	+ 0.31 + 4.22 + 1.44 + 1.36 + 1.65 + 0.59 - 0.14 + 1.19 + 0.15 + 1.14 + 0.78 + 1.72 + 2.28 + 0.58 + 1.14	0. 35 1. 19 1. 38 1. 20 1. 55 0. 57 1. 16 1. 00 1. 05 0. 45 0. 85 1. 20 1. 20 20 20 20 20 20 20 20 20 20 20 20 20 2	6.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	9 12 13 11 9 10 9 8 8 10 10 9 9 11 12 10 9 9 8 8 9 9	19 14 9 7 7 12 11 14 10 12 19 16 8 10 8 12 15 14 15 14	9 2 15 1 6 15 22 1 11 7 16 3 11 5 1 10 1 11 7 6 5 12 9 4 100 11 11 5 15 15 13 3 9 6 8 8	SW. SW. SW. D. S. B. DW. SW. SW. SW.	F. W. Gibson. S. M. Painter. Cory L. Lane. Miss Mary Elliott. Harry B. McConnell. Samuel Mehaffey. Henry F. Pinkvoss. Ed. S. Slingluff. Prof. C. F. Stokey. Ansel E. Salisbury. Owen L. Brown. U. S. Weather Bureau. Hon. S. W. Courtright Col. S. Tschappat. U. S. Weather Bureau. Mrs. Ada Jeffries. Mrs. Edith L. Boyer. Prof. L. L. Hudson. J. T. Dysart. Water Supply Co. O. A. Cory. S. M. Luther.

Table 1.—Climatological data for September, 1910. District No. 3—Continued.

		**	E	Tem	perature	, in d	egree	Fah	renhe	eit.	Prec	ipitation	i, in it	oches.	9.5		Sky	•	otto	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	100	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind	Observers.
Ohio-Cont'd.	Licking	960		67.0	+ 1.6	89 86	5	41	15	38	3.84	+ 0.95	1.22	0.0	13	15	2	13	sw.	Dr. L. E. Davis.
ratiot		1,000		65. 8 70. 0	+ 0.3 + 1.3	86 90	6	42 46	14	37	3.90	+ 1.14 + 1.29 + 0.64	0.95	0.0	9	12 17	13	8	SW.	W. B. Longstreth. W. F. Kenyon.
reen. Freen Hill	Adams	1, 135		62.6	- 0.7	86	5	35	151	39	3. 29	+ 0.64	1. 63	0.0	9	13	14	3	sw.	Jos. E. Bentley.
reenville	Darke	1,000	24	65.1	+ 0.4	86 85 85	51	45	151	34	7.29	+ 4.07	2.00	0.0		9	8	13	n.	G. A. Katzenberger.
fillsboro		1,063		68.0 71.5	- 0.4 + 3.8	91	121	46 45	15	32	3.83	+ 1.17 + 0.21	0.98	0.0	7	15	21	8	SW.	Carey H. Roush.
acksonburg	Butler	975	42	67.5	- 1.0	90 88	12	45	101	40	3.71	+ 1.11	0.95	0.0	9	16	9 7 9	7	ne.	James Bull. Dr. J. B. Owsley. N. S. Martin.
enton	Hardin	1,015	18	65.6	- 2.7	88	5	38 40	15	40	3.65	+ 1.40	1.00	0.0	13	13 15	15	8	w.	N. S. Martin.
ancaster	Holmes	898		66.0	+ 0.8	89 87 91	5 5 5	42	15	32	2.61	- 0.80 + 0.48	1.10	0.0	10	16 17	9 8	5	SW.	Geo. W. Nowels. R. L. Renshaw.
awahe	Adams	900	7	68.44		91	12	40	141		2.18		1.34	0.0	6		8 16	5	w.	Miss Ruth Hoffman.
Connelsville	Washington	710	26	67.7 69.6	+ 1.2 + 4.1	88 88	5 5†	41	17 16†	38	0.67	- 2.17 - 1.32 + 0.46 + 1.50	0.49	0.0	8	11	13	6	sw. n.	C. H. Morris. Prof. T. D. Biscoe.
arion	Marion	980	33	67.6	+ 0.9	90	5	.18	10	43	3, 50	+ 0.46	1.03	0.0	8	13	12	5	sw.	Dr. E. H. Raffensperger
ilfordton	Knox		18 17	67.8	+ 1.4	88 89	5	41 37	10 10†	39	1.44	+ 1.50	0.49	0.0	11 6	20 13	9	5	ne. sw.	L. H. Burgess. V. C. Eveland.
lilligan¶lillport	Columbiana		18	64.2	+ 0.4	88	5	36	15	37	5.08	- 0.77 + 2.67 + 0.97 + 1.98	1.65	0.0	10	11	17	2	SW.	G. F. Copeland.
ellie	Coshocton Jefferson	1,050	10 25	66. 8 67. 2	+ 1.6	89 92	8 8 5 5 5	38 41	15 16†	39	3.37 4.65	+ 0.97	0.82 2.00	0.0	6	20 17	5	5 9	w.	Miss Ethel L. Gamertsfel Mrs. Mary K. Pennell.
ew Alexandria	Stark		18	64. 4	+ 1.8	87	5	38	15	36	4.09	+ 1.48	1.73	0.0	8	19	5	6	nw.	Clayton Holl.
iew Waterford	Columbiana	1,053	16	64. 6 67. 0	+ 0.8	88 89	5	36 42	15 15	38 35	4.08	+ 1.61	0.00	0.0		14	8	8	sw.	Sam. C. Scott. Prof. H. C. Lord.
hio State University	Franklin Licking	757 997	27 18	66.5	+ 1.7	89	5	41	15	34	4.04	+0.97 $+1.25$	0.89	0.0	13	8	19	8	SW.	J. N. Ridenour.
hilo(1)	Muskingum	1,018	15	68.4	+ 1.0	90	23	42	29	34	1.67	- 0.78	1.09	0.0	6	14	13	3	sw.	L. C. Burckholter.
iqua. lattoburg	Miami	1, 130	17	66.4	- 0.7	86	5	43	15	34	6.94	+ 1.73	2.20 1.00	0.0	10	10	17	3	w.	Harry L. Roberts. F. E. Stewart.
omeroy	Meigs	781	26	******	**** ***		****	*****								****				W. L. Russell.
ortamouth		527	79	69.3	+ 1.5	88	89	45	16	72	3.94 2.26	+ 1.25	1.57	0.0	10	13	5	12	w.	Dr. H. A. Schirrmann. Neil J. Gast.
ittmanhenandoahi	Wayne	990	18	******							3.38	+ 0.20								J. B. Gish.
henandoah)idney	Richland	1,100	18 27	67. 2	+ 1.2	91	8 5 5	43		40 37	4.93 5.27	+ 2.10 + 2.25	1.60	0.0	11	10	18	12	ne. sw.	T. B. Arnett. Hamline B. Blake.
omerset pringfield	Perry	1,080	11	67.9	+ 0.4	90	8	44			1.70	- 0.44	0.51	0.0	13	15	8	7	n.	Miss M. W. C. Sheridan.
pringfield	Clarke	1,002	16	67.4	*****	90	8	38	151	41	6, 49 2, 24	+ 3.72	1.98 0,61	0.0	12 11	10 12	18	5	s. sw.	W. A. Webster. H. R. McClintock. D. D. Thomas.
hurman	Gallia	606	17	70.3	+ 0.4	90 89	23	42	17		0.59	- 1.11	0.35	0.0	2	10	16	4	w.	D. D. Thomas.
rbana	Champaign	1.031	21	67.0	+ 1.7	89 89	8 5	40 36	15 15†	41	6, 25 5, 34	+ 3.06	1.28	0.0	11	12 10	13	5	sw.	Prof. J. H. Williams. M. D. McCorkle.
arren	Trumbull	590	27 25	69.0	+ 0.6	92	12	43	17	36	3.61	+2.40 + 1.13	0.91	0.0	10	20	7	9	8.	Herrmann A. Lorbach.
averly!	Warren	700		67.2	+ 0.4	89	3	44	15	36=		+0.02	1.08	0.0	9 7	16	11	2	W.	Charles Michener.
oosteroungstown	Wayne	1,030	30 18	85.0	+ 1.3	91	5	34		1	6, 65	- 0.79 + 3.77	1.78	0.0	9	16 12	6	8	nw.	Experiment Station. G. R. Patton.
anesville	Muskingum	700	23		******						1.81	- 0.64	0.42	0.0	9	11	4	15	8.	S. G. Sprague.
ig Stone Gap	Wise	1,540	19	69.2	+ 2.6	83	61	46	16	25	2.64	- 0.21	0.65	0.0	9	15	12	3	w.	John W. Fox, sr.
lacksburg	Montgomery Tazewell	2, 170	19	65.0	+ 0.6	86 79	2	36	16t	38	2.13	- 0.95 - 0.61	1.00	0.0	9 7	.4	14	12	w.	Agricultural Exp. Statio C. H. Greever.
urksgardenlk Knob	Lee	3, 243	15 7	61. 7 68. 3	+ 1.3	83	8	32 54	18 17†	37	3. 11	- 0.01	0.75 1.12	0.0	15	11 12	14	15	W.	Henry Nicoll.
alaxanhoe**§	Grayson	2,300		68.4		86	8	37	18	38		******		6.0			****		5.	E. C. Williams.
ebanon	Wythe	2, 131	6	05. 8 68. 2		82 85	81	42 39	16† 17		1.83		0.65	0.0	16	18 16	10 7	2 7	W.	Miss Alice G. Jewett. R. W. Swain.
arion	Smyth	2, 224	15		+ 0.2	85	21	39	18	40	2.94		0.66	0.0	12	18	11	1	w.	S. W'n State Hospital.
ax Meadowsendota§§	Wythe				*******						6. 13		1.40	0.0					*****	James M. Graham. Frank M. Baker.
adfordffpeers Ferryff	Montgomery	1,773	- 4								1.74		0.64	0.0	7					Arthur Roberts.
ytheville	Scott	2, 293	17	67.0	+ 3.4	86	8	41	17	31	3.85	+ 1.77 + 0.56	1.80	0.0	12	9		6		Mrs. L. E. Venable. U. S. Weather Bureau.
North Carolina.		1																		
ltapass	Mitchell	1,800	****	72.0	*******	91	81	43	18	38	3.52	******	1.18	0.0	8	10	20	0	n.	C. C. & O. Railway. J. D. Link.
sheville	Buncombe	2, 250	31	67.6	+ 2.6	85	4	44	18	27	1.52	- 1.52	0.70	0.0	12	5	22	. 3	BW.	U. S. Weather Bureau.
anners Elk	Watauga Transylvania	3, 750	2 9	61. 6 68. 8		80 90	8	35 42	17† 18†	35 37	4.78 7.29		1. 19 3. 20	0.0	14 8		11	6	w.	T. L. Lowe. W. E. Breese.
yson City	Swain	2,000	22		*******						2.23	- 1.03	0.87	0.0	7					D. K. Collins.
allowhee	Jackson	2, 100	14	70.4 68.6	+ 2.7	88	6† 6†	41	17		3. 07	- 0.51	0. 90	0.0	12 11	15 17	10	5	nw.	F. H. Brown. T. W. Valentine.
ighlands	Macon	3,670	20	63.0	+ 2.7 + 2.7	88 80 87	7	35	17	32	5.36	- 0.29	1.30	0.0	12	7	21	2	80.	T. G. Harbison.
ot Springs	Madison		12	71.4 65.8	+ 3.1	87 85	24 8	48	17† 17		3.61 2.38		1. 12 0. 43	0.0	13	13 5	15		W.	P. A. Garner. E. J. Johnson.
arshall	Madison	1,646	9	70.2		86	51	44	17	33	2.73		1.43	0.0	12					W. E. Finley.
urphyock House	Cherokee	3, 100	34 18	66, 2	- 0.1	83	7	44	17		3. 56 5. 77	+ 0.14 - 0.88	1.46	0.0	14	10	16	4	e	Miss J. Campbell. B. C. Hawkins.
aynesville	Haywood	2,756	16	66.6	+ 1.9	86	51	39	17			- 0.73	0.33	0.0	16	17	8		ne.	J. C. L. Gudger.
Georgia.	Gilmer	2,020	20	70.0	+ 1.4	86	7	45	17	29=	2.27	- 2.42	1.00	0.0	5	14	11	5		R. A. Kimzey.
Fayette	Walker	841	4	73.0		90	8	48	17	28	M (60)		3. 15	0.0	8		10		nw.	Ralph A. Snow.
Alabama.	Jackson	660	10								1.47	- 1.54	0.75	0.0	7	11	6	13	e.	R. L. Moore.
ecatur	Morgan	573	28	77.4	+ 4.8 + 4.0	96	7†	53		38	2.67	- 0.28	0.92	0.0	8	17		11	ne.	Ernest A. Carriger.
orence	Lauderdale	580	26	77.0	+ 4.0	93	8 7†	57 52	171	39		- 1.88	1.00	0.0	5	17	5		e. sw.	Robt. E. Coburn. L. S. Long.
adison	Madison	573	16	75.4	$\begin{array}{c} + \ 1.3 \\ + \ 3.0 \end{array}$	95	22 23	52 52 47	171	33	2.64	- 0.97	1.40	0.0	7	20 17	10	0	nw.	Albert Klish.
vertonottaboro	Colbert	360	13 27	75. 9 74. 4	+ 3.0	96 92 93 95 96 90 92	23 6†	48	19		1.61	- 1.94 + 0.15	1.04	0.0	7	17	8		e. nw.	Ernie J. Moore. Miss Irene Caldwell.
iscumbia	Colbert	488	28	75.6	+ 2.6 + 2.7	92	8	48 52	18†	36	1.74	- 1.40	0.80	0.0	6	16			80.	Samuel Moore.
Tennessee.	Maury	725	31	74.6	+ 4.0	93	221	50	17	34	2.30	- 1.32	1.70	0.0	5	4	15	11	8.	Mrs. J. W. Fleming.
nton	Polk	880	25	74.8	+ 3.1	94	22	46	18	46	0.98	- 2.12	0.35	0.0	8	10	15	5	n.	G. L. Williams.
rds Bridgeuff City	Greene		9.00		******								1. 17 0. 86	0.0	14	11 10	12		e. w.	D. B. George. J. W. Fisher.
rdstown	Sullivan	1,026	17 .	*****	*** ***	*****		*****								10			w.	John Lacy.
rthagedar Hill	Robertson	300	26	75.2	+ 4.2		24 7†	50	16	41	2.05	- 1.25 - 0.37	0.51	0.0	10	15	7		ne.	E. C. Pickering.
onret Point	Clay	494	7 .		+ 3.0						3.01		1. 25 0. 89	0.0	7	24 15	6		S.	J. F. Ruffin. S. B. Anderson.
	Chester		19							-	0 70		2.00	0.0	5	25	1		8.	H. H. Bailey.

TABLE 1.—Climatological data for September, 1910. District No. 3—Continued.

Transport Cont' d. Second Cont. C				E	Tem	perature	, in d	egree	s Fab	renhe	eit.	Prec	ipitatio	n, in in	ches.	day.		Sky		tion.	-
Table Tabl	Stations.	Counties.	Elevation, feet.	6	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from	9.	Total snowfall unmelted.	Number of rainy	Number of	Number of part-	Number of cloudy days.	Prevailing wind	Observers.
Section	hattanooga	Montgomery	. 520	47	74.8 74.8	+ 3.6 + 4.1	91 98	8 12	54 48	18 16		3.00	+ 0.14	0.57 0.95	0.0	8 12	13	14	3	8. 8W.	U. S. Weather Bureau Prof. Jas. A. Lyon. John Thompson.
nahap	ecatur	Meigs Dickson	850	14	73.3	+ 2.6 + 1.8			51	17	34	2.02 1.81	- 1.80 - 0.88	0.56	0.0	11 5	12	25	0	SW.	J. W. Lillard. N. R. Sugg.
Samuel Sunderford 1.500 20 72,20 1.00 73,20 73,20	over	Seaquatchee	. 726	20			93	8†	48	18	43	2.67 5.88	+ 3.47	1.26	0.0	11 10	14	13 5	3	e.	S. B. Boyd. Chas. Boyd.
Colty	rence	Rutherford	. 560	13 28 20	74.2	+ 2.9 + 2.9 + 1.9	92 95	23 13	49	17 17 17	32	3.08	- 0.34 - 2.39			6	10				Mrs. E. D. Ashley. Erastus P. Bell. J. L. Parkes, jr.
City Memory 11. 17.0 69 7 48 177 99 23 1 0.61 15.3 0.0 1 3 27 0 9w. Capt. H. P. Sos enteron (11. 19. 19. 19. 19. 19. 19. 19. 19. 19.	lls Hill	Rutherford	841	8 15		+ 3.4	91	81	47		33	2.55	- 0.39 - 1.38	0.82	0.0	6	8	20	2		Robert R. Ayers.
Manushrey 304 14 74.6 7.2 20 11 49 16 37 3.35 40.17 2.30 0.0 6 12 15 3 Miss Salle B. M. electron Statistics 10 10 10 10 10 10 10 1	erson City	Jefferson		13				7				2.71	- 0.61	1.53 0.49	0.0	13	3	27	0	sw.	Capt. H. P. Seavy. C. Calvin Maddox.
andon. Miscolaria 272 15 15 15 15 15 15 15 1	nsonvilleesboro	Humphreys	. 364	1 22				1†	49	16	37	3.38	*******	2.30	0.0	6	12	15	3	8.	Miss Sallie B. Matthe Robert A. Lovegrove
saburt. Sarchard. Sa	oxville	KnoxWilson	. 522	39 1	73.0	+ 3.6				17		3.68 2.07	+ 0.87	0.91	0.0	11	8	18 2	20	ne. s.	U. S. Weather Bureau Logan Fields.
These	risburg	Marshall	727	15	76.0	+ 4.7	97	8	48		-							15			
pywlle Blount. 1.050 14 73.2 -1.4 91 77 47 73 32 250 -0.70 0.56 0.0 11 12 16 2 w. Mer. F.E. Bene nutain City Johnson 2, 48 13 65.7 -3.6 83 73.5 -4.0 85 13 27 -0.72 0.56 0.0 10 12 w. Mer. F.E. Bene nutain City Johnson 2, 48 13 65.7 -3.6 83 13 40 15 20 27 -7.7 0.41 0.75 0.0 10 w. Dr. C. T. Burre Burte 10 15 15 15 15 15 15 15	nville	Giles	. 770	6				8†	51	****		2.11 0.46	- 1.80	0.85	0.0	5	9 22	1	7	8.	Col. J. H. Burrow. Alice L. Hendricks.
Figure 1. Cocke 1.29	yville	Johnson	. 1,050	14 13	73. 2 66. 7	+ 3.6	91 83	7† 2†	37	17	33	2.50 2.37	- 0.70 - 0.78	0.56	0.0	11	12	16	. 2	w.	Mrs. F. E. Benedict. E. E. Barry.
metto Bedford 770 17 73.9 + 3.6 50 20 30 1 30 1.7 - 1.00 1.18 1.00 0 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 0 1.00 0 0 0 0 0 0 0 0 0	vport	Scott	1,280	20					49			2.77 2.96	+ 0.41	0.75 0.62	0.0	7 6	19	10	6	W. 8.	Dr. C. T. Burnett. Burl W. Buttram.
Serville Hawkins	metto	Bedford	. 770	3		+ 3.6						2.79		1.88	0.0	6				8.	Mrs. Ross Woods. Miss Carrie Cash. Miss Bessie Howard.
erville Sevier 4 71.3 4 71.3 91 57 44 17 33 2.87 1.39 0.0 10 8 6 16 16 27 18 14 0.0 16 16 17 18 18 18 18 18 18 18 18 18 18 18 18 18	by	Hawkins Morgan	1, 150	25 22		$^{+\ 3.1}_{+\ 2.7}$	89 91	8† 1†				2.80	+ 0.24							n.	Fred. Beal. S. G. Wilson. W. F. Bell.
Ingralis	anee	SevierFranklin	2,000	14	73.6		89	21†	53	15	30	3.82		1.59	0.0	5	8 2	4	24	sw. se.	H. O. Eckel. University of the Sou
Ing. White. 969 7 1. 2. 3. 3. 3. 3. 3. 3. 47 1. 2. 2. 0. 10 15 4 11 1. J. K. Roberts, resolved Wayne. 753 24 74.2 3.7 93 23 50 17 23 3.65 1.09 2.7 2.00 0. 5 19 5 6 8. W. R. Wilson, when Summer. 9 17.5 1. 1. 1. 1. 1. 1. 1.	ngdale	Claiborne	1,058	20 7	******							3.25		1.30	0.0	7	22	7	i	8.	Mrs. Lucy E. Breedin H. A. Boden.
Intervalib Henderson 13 75.1 94 17 50 17 34 3.63 +1.04 2.45 0.0 5 19 5 6 8. W. R. Wilson Sumer	ahomaling	Coffee	1,075	22 7	******			****				1.27	- 1.86	0.70 1.20	0.0	10	11 15	17	11	S.	J. K. Roberts.
	iersville	Henderson		13						17	34	3.66 3.63 0.75	+ 0.30	2.45	0.0	5 7	19 12	5 9	6	5.	W. R. Wilson. J. G. Elizer.
horage discouns Jefferson 700 9 69.0 0.1 19 7 44 16 36 4.75 1.98 0.95 0.0 11 17 8 5 8w. C.E. Barrett Satown#i Nelson 637 14 74.2 2.4 9.3 124 25 38 2.92 2.23 1.00 0.0 11 17 8 5 8w. C.E. Barrett Satown#i Nelson 650 7 71.0 92 13 42 16 39 5.78 2.04 0.0 12 5 11 14 w. C.M. Talbott C.G.M. Talbott C	Kentucky.	Lincoln	850	1																	
Noun McLean 397 7 40 0 95 7 48 10 37 1.43 0.72 0.0 6 9 20 1 s. W. A. Taylor.	horage dstown§§ ttyville§§ ver Dam§§ a. ding Green§§	Jefferson Nelson Lee Ohio Madison Warren	637 650 441 1,070 500	9 14 7 7 9 21	69. 0 74. 2 71. 0 72. 5 71. 4	+ 0.1 + 2.4	90 93 92 95 91	7 12† 13 7† 7	44 45 42 41 38	16 16 16 16 16	36 38 39 38 41	4. 75 2. 92 5. 78 3. 99 4. 83 3. 87	+ 1.98 + 0.23 + 0.81	0.95 1.00 2.04 1.75 1.39	0.0 0.0 0.0 0.0 0.0	11 11 12 7 10 9	17 15 5 15 14	8 1 11 3 11	5 14 14 12 5	8W. 80. W. 8W.	C. E. Barrett. G. M. Talbott. G. W. Cann. T. S. Woodward. C. F. Rumold. Mrs. L. G. Causey.
Ingtons	oun	Trigg	397	8 7					47			2.26 1.43		0.72	0.0	6	9	20	7*	8.	F. T. Street. W. A. Taylor.
New Action	ington§§	Hopkins	370 600	21 19	71.8	+ 3.7 + 2.1	91	71	46	16 17	44 30	1.00 5.24	- 1.49 - 1.96 + 1.89	0.80	0.0	15	23 10°	1 15*	4-	8.	J. B. Atkinson.
Debridge Jessamine 762 8 8 8 8 8 55 2.46 0.0 11 19 1 10 Miss Liulu Woods 10 10 10 10 10 10 10 1	nouth	Pendleton	530 668	21 5	69.9	*******	91	12	42	16		a. un		2.30	0.0	10	13 11	13	13 6	8. e.	Miss Gertrude Sorrell.
Strict S	nklin	Simpson	691 581	18	75.2	+ 3.8 + 0.6	96 92	117	47	16 16	37 47			0.98 1.50	0.0	13	15	30	15	sw. n.	J. E. Newman. L. C. Alcorn.
Seville Series Seville Sevil	ngton	Christian	524	14	70 0	1.01	99 87	1 12	49	16	37	1.03	- 2.01 + 0.18	0.45 0.92	0.0	6	12	9	7	8. sw.	W. F. Randle. W. J. Piggott.
Sevine Sering Sevine S	ngton	Fayette	989 681	15 23 13	70. 8 69. 6 70. 6	+ 1.7 + 0.2	88 87 90	7 12†	52	16 16	31 25 39	7.92 5.02	+ 5.50 + 2.44	4. 26 2. 55	0.0	10	10 19	12 12 4	8 7	8.	Loretto Academy.
	isvilleion	Jefferson	525	38 16	72.0 73.8 71.2	+ 2.1 + 1.9 + 0.8	92 94 94	81	53 49	16	36	2. 15	- 0.40	0.70	0.0	4	10 13 14	14 13 10	4	sw.	U. S. Weather Bureau B. C. Paris. Mrs. Mary D. Marsh.
ville Pike 1 3, 93 0, 90 0, 0 9 10 9 11 A. R. Williams. imond§ Madison 926 21 71.8 + 1.2 90 13 47 16 32 6.38 + 3.74 1.55 0.0 10 15 9 6 J. W. Crooke. ohn§ Hardin 777 14 70.4 + 1.5 91 8† 41 18 35 6.20 + 3.11 1.60 0.0 10 16 7 7 . Bethlebem Acade t. Kenton 13 69.8 - 0.3 88 12† 47 28† 35 3.48 + 1.20 1.03 0.0 8 8 16 6 s. E. B. Wilson. by City Boyle 1,087 16 69.8 0.0 93 12 42 16† 43 8.23 + 5.48 3.03 0.0 11 13 10 7 w. W. E. Grubba. by City Boyle 783 21 73 8 + 3.3 93 7 48 16 38 1.78 - 1 11 0.58 0.0 8 15 9 6 s. O. M. E. Grubba.	dlesboro nt Sterling	Bell. Montgomery. Daviess. Owen McCracken	1, 128 930 479 700 341	17 21 14 14	72.8 70.6 72.2 69.8	+ 4.5 + 3.0 + 1.6 - 0.5	91 87 90 87	13 7† 12 13	48 46 51 48	16 17 15	31 33 26 [‡]	5. 15 7. 95 4. 60 5. 25	+ 2.50 + 5.06 + 1.79 + 2.47 - 1.80	1. 30 1. 85 2. 30 3. 87 0. 60	0.0 0.0 0.0 0.0	12 11 8 8	22	0	8 15 8 8	8. 8.	B. H. Perkins. James O'Connell. Henry S. Berry. J. T. Walker. S. A. Fowler.
NOTATION Spencer 422 8 70 U N 8 44 187 24 4 23 1.75 0.0 11 11 10 U SW. E. D. BOUTDE.	ville mond# ohn## t by City	Pike Madison Hardin Kenton Boyle Shelby	926 777 1,087 759	1 21 14 13 16 21	70.4 69.8 69.8 72.8	- 0.3 0.0 + 3.3		8† 12† 12 7	47 42 48	18 28† 16† 16	32 35 35 43 38	3. 93 . 6. 38 - 6. 20 - 3. 48 - 8. 23 - 1. 78 -	+ 3.74 + 3.11 + 1.20 + 5.48 - 1.11	1.55 1.60 1.03 3.03 0.58	0.0 0.0 0.0 0.0 0.0	10 10 8 11 8	15 16 8 13 15	16 10 9	6 7 6		A. R. Williams. J. W. Crooke. Bethlebem Academy. E. B. Wilson.
iamsburg\$\$ Whitley	lorsville	Spencer	939 943		72.6		91	7† 7†	44 46 48	16	39	7.18 -	4.04	1.83	0.0	15	11 14 17	0	16	0.	E. D. Bourne. Noble C. Jones. Mrs. Sarah E. Carter.

Table 1.—Climatological data for September, 1910. District No. 3—Continued.

			E	Temp	perature,	in de	едтое	Fah	renbe	it.	Pre	cipitatio	n, in in	ches.	days		Sky		on.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy d	Number of	Number of part-	Number of	Prevailing wind	Observers.
Indiana-Cont'd.						60		43	904	90						1.			-	P. IP P.
oomington	Monroe	744	15 15	64.4	+ 0.1	88 86 93 90 90 92	12 5†	43 30		38 42	3.02 4.53	+ 0.33 + 1.20	0.58	0.0	11	10	10	10	SW.	Earl E. Ramsey. Prof. P. A. Allen.
tlerville	Jennings	767	25	70.3	+ 1.9	93		42	29 28	38	2.86 7.29	+ 0.12 + 3.93 + 0.52	1.03	0.0	10	15	11	4		C. F. Hole.
mbridge City	Wayne	941		66.2	+ 1.2	90	23 12	40	10+	44	7.29	+ 3.93	2, 43	0.0	14	16	5	13	n.	Charles Lemberger.
lumbus	Bartholomew	632		69. 2 68. 0	+ 2.0 + 2.4	90	12	42	10† 28†	416	3.54	+ 0.52	0.72	0.0	14	10 ^h		13		John A. Perry. C. C. Hibbs.
nneraville	Fayette			65.6	+ 0.6	88	3	42	281	38	4.76	+ 1.49 + 1.78	1.00	0.0	14	10	14	11	w.	L. A. Higginbotham.
inence	Morgan	782	4	66.7		88 86	12†	42	281	36	3.79		1.20	0.0	6	12	17	1	sw.	L. A. Higginbotham. Dr. E. E. Kelso.
ansville				72.2	+ 2.5	91	12	52	28	29	3.39	+ 0.73	1.90	0.0	10	8	21	1	ne.	U. S. Weather Burea
mersburg	Randolph	1, 101	. 12 28	65.5	- 0.6 + 3.3	89	3 8	43 45		33 ^b	3.27 9.29	+ 0.73 + 0.77 + 5.92	1.45	0.0	14	14-	8.	21	ne.	Maurice Yeager. W. J. Davisson.
enfield				66.0	1 0.0	85 84 87	81	40	30	34	5.51		1.36	0.0	9	0	27	3	SW.	Prof. W. C. Goble.
ensburg	Decatur	954		68.8	+ 0.2	87	8	47	101	32	3.77	+ 0.76	0.65	0.0	10	13	13	4	sw.	Chas. H. Ewing.
ntingburg	Dubois		17	71.0 65.2	- 3.3	92	8	45	15	39	5.68 5.66	+ 2.61 + 0.29	3.30 1.35	0, 0	11	13	6	11	sw.	H. Dufendach. Chas. McGrew.
ntington	Huntington			68.1	+ 1.4	86	8	50	28 10	33 29 32	3.34	+ 0, 29	1.54	0.0	13	9	7	14	ne.	U. S. Weather Bureau
ersonville	Clark	455	28	71.0	‡ 1.4 ‡ 1.5	86 86 92 88 85 86 97 93	8 5 8 8 8	48	16	32	2.43	- 0.13	0.93	0.0	10	10	16	4	e.	John C. Loomis. Dale R. Warrwick,
lyville	Warren		. 3	65. 5		88	8	38	28	39=	4.76		2.70	0.0	9	16	.7	7	SW.	Dale R. Warrwick,
komo	Howard	617		64.3	+ 1.8	88	3	41	29†	39	4.29	1.58	1.00	0.0	9	13	14	7 16	e.	P. H. Robertson. Wm. J. Jones, jr.
ayette			30	66.8	+ 0.8	97	3 8	42 42	29	41	6. 17	+ 1.58 + 1.92 + 3.10	1.33	0.0	14	12	3	15	W.	Chas. Massens.
dison	Jefferson	400	18	72.0	+ 1.4	93	12	47	281	39			0.03	0.0	5	16	12	2 2	e.	Dr. J. Cooperider.
rengo	Crawford	363		65. 3	- 0.5 - 0.5	88 85	8† 5† 5†	42		36 38	4.03	+ 0.02 + 1.97 + 2.21 + 2.00	2.27	0.0	.7	14	14	,2	w.	J. M. Johnson.
rion	Grant			64.1	- 0.8	85 85	51	39		40	5. 20	+ 1.97	0.86 2.00	0.0	15	11	13	16	n. sw.	James F. Hood. I. S. Shideler.
HAV	Rush			96. 9	+ 2.0	87	12	41	15	41	4.89	+ 2.00	1.00	0.0	13	10	8	12	sw.	Elwood Kirkwood.
usy	White		****	******	******			*****			0.11		3.58	0.0	11	10	17	3	e.	J. E. Loughry.
ores Hill	Dearborn	410	. 9	69. 2 71. 4	+ 0.7	89 89	12	45 50		38	2.56 4.28	1 4 89	1.34	0.0	9	15	7	10	sw.	W. S. Bigney.
unt Vernon		611		69.8	+ 0.7	90	12 12	39		39	4.70	+ 1.53 + 1.32		0.0	12	20 10	17	3	n. sw.	Chas. M. Spencer. James A. Gillum.
nceton	Gibson	481	28	71.4	+ 2.7	93	12	43	28	38	7.13	+ 3.94	2. 10	0.0	8	26	3	i	sw.	Elisha Jones.
hmond	Wayne	972		66, 4	+ 0.7	88	12	40		42	5.50	+ 2.80	1.58	0.0	12	11	15	4		Walter Vossler.
hesterkville	Fulton	775		63.4	- 0.4	83 85	5 8t	41		33	6.03	+ 3.02	2.13 2.63	0.0	10	15 13	7 2	8 15	8.	G. P. Keith. Dr. W. N. Wirt.
me	Perry			73. 2		95	12	40		40	4. 15	T 0.00	1. 65	0.0	12	19	8	3	w.	Adam Ansnach.
amonia	Jay Washington	717	. 5	64.4		83	3	38		38.				0.0	12	90	40	14°	sw.	Chas. V. Skinner.
em ottsburg	Scott	570		68. 8 70. 4	+ 0.1	89 89	12 8†	48		39 33b	3. 12	+ 0.49 + 0.83	1.05	0.0	11 8	9.	21 13°	7*	sw.	Emmet S. Allen. Frank H. Park.
mour	Jackson	610		69. 2	+ 0.7	89	8	44		39	3. 32	+ 0.42	1.34	0.0	11	8	18	4	W.	J. Robt. Blair.
mour	Shelby	** ******	. 6	67.5		88	12	42	28	38	4.00		1.60	0.0	7	11	16	3	sw.	Edgar A. Hodson.
re Haute	Vigo	498		69.2	- 0.2	88 89	81	48	10	29	2.75	- 0.03	0.46	0.0	12	14	6	10	SW.	Prof. R. G. Gillum.
dersburg	Fountain	612 525		67.4 71.6	- 1.0 + 2.0	90	8 5	48	28 16	39 32	5.30	+ 2.74	2.57 1.75	0.0	16	14	8 16	8	8W.	L. A. Culver, jr. Miss Frederica Boerns
cennes	Knox	431	18	70.7	0.0	90 92 87	12	46	28	36	9. 25	+ 0.45 + 6.19	2.00	0.0	11	14	4	12	n.	Garrett V. List.
shington	Daviess	484	14	67.6	- 1.9	87	13	47	28	26 i	*****	******								Homer B. Turrell.
itestown	Boone	** *****	2 3	65.4	*******	97		42	994	20	5.61	******	1 05	0.0	10	7	17		sw.	C. A. Stevenson. Rev. Albert A. Young
rthington	Greene	526	28	69.0	+ 1.8	87	12	44	28	23	2.63	- 0.33	0.72	0.0	3	10	14	6	nw.	D. W. Solliday.
Illinoia.				ma a		-	-	400	-								-			
ion	Edwards		19 25	70. 6 67. 2	+ 0.9	89	7† 12	47		29 34	5.30 3.81	+ 2.31 + 0.92	1.72	0.0	13	13	14	10	8.	B. F. Michels. Jacob B. Daisy.
nville	Vermilion	604	9	67.8	- 0.0	88 89	8	43		28	6.84	T 0.92	3.23	0.0	12	14	6	10	8. 8W.	J. J. Lemon.
ality	Gallatin	421	12	73.4	+ 1.7	94	12	48	98	34	3, 51	+ 0.59	1.54	0.0	6	17	13	0	8.	Dr. L. W. Gordon.
rfield	Wayne	495	17	71.1 68.4	+ 1.0 + 0.4	92 *	7† 8	43	28	36 37	6.35	+ 2.16 + 2.04	2.66 1.65	0.0	10	23 16	1 9	5	nw.	Geo. A. Tromly. Jos. S. Peak.
ra	Clay		24 32	74.0	+ 2.5	92 95 83	81	50	17†	40	1.69	- 1.43	0.53	0.0	8 5	15	9	6	se. sw.	Dr. D. Lawrence.
opeston	Vermilion	715	8	65.0		83	3 7†	50 42 47	28	30	5. 12		2.47	0.0	12	14	7	9		S. F. Hoskinson.
Leansboro	Hamilton	462	27 22	70. 8 68. 8	+ 1.2 + 0.9	90	8	47	28	36 41	2.30	+ 2.06	1.66 0.70	0.0	7 7	15 12	7 2 6	13 12	8.	C. C. Judd. G. M. Daugherty.
rtinsvilleunt Carmel	Clark Wabash	424	9	69. 9	4 0.0	90	12	48	28	24	9. 16	- 0.30 + 5.90	1.74	0.0	13	15	3	12	8. n.	Mrs. H. M. Phillips.
w Burnside	Johnson	556	15	72.1	+ 0.1	92	8	47	16†	36	1.70	- I.12	0.78	0.0	6	17	4	9	e.	Geo. Harris.
eyestine	Richland	486	23	70.6	+ 1.0	91	81	45	28	34	6.72	+ 3.73	2. 22	0.0	9	10	9	11	sw.	Victor E. Phillips.
is	Edgar		23 28 17 26	66.4	- 2.4	90	4	42	29	34	4.66	+ 1.68	1.33	0.0	10	13	12	5	sw.	Duane Shaw. H. P. Twyman. H. A. Burr.
lo	Champaign	700	26	65. 9	+ 0.1	87	8	40	28	35	4.65	+ 1.60	1. 33 1. 77	0.0	10	15	9	6	ne.	H. A. Burr.
stoul	Crawford	768	19 10	65.9	- 0.7 + 0.5	89 90	8	42 46	10† 28	37 36	4.57 5.84	+ 1.12 + 2.58	1.82	0.0	12	15	6	11 13	80. 8W.	Wm Breiner.
nner§	Lawrence	459	4	69.0	1 0.0	86	12	44	10	30	10.83	1. 0. 00	3.53	0.0	8	17	6	7	n.	A. P. Woodworth. O. A. Fyffe. E. W. Lester.
eolaanaf	Douglas	644	17																	E. W. Lester.
	Champaign	725	8	65.8	*******	87	8	41	28	36	4.14	******	1.22	0.0	9	8	6	16	8.	Prof. J. G. Mosier.

Table 2.—Daily precipitation for September, 1910. District No. 3, Ohio Valley.

Stations.	River basins.			-		-		-		-					1	Day	ot m	Onti	H.													
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
New York		1.		1	1		I	T	1			1	-																			
llegany	. Allegheny	0	2		88 . 5	52 .3	42.	37	3	4				. 03					. 04	T.				1.40	. 20	.04	.10	. 04				
Solivar	do	.4	2	1.	50 .8	51 .0	3 .	28 .00 89 55 .4		. 00			. 15	:11	T.				T.	T.	T.			T.	. 14	.54	. 10	. 03	. 02			
lean		2	0		70 .4	15 .2	5 .	55 .4	i	26				. 05						.04					1.90	. 35	. 07					
Pennsylvania.	Ohio	1			05 5	10 3	2		9				99								T											
leppo	Ohio Allegheny Ohio Allegheny Monongahela Allegheny	2.00	3		00 2. 1	15 .1	1 .	05 T.	T.	. 18				. 05	****				.02	. 05					1. 16	1.04	.72	.02				****
leaver Dam	. Ohio	00	3 .0	7 .	39 1. 1	16 .0	3	0	5	96				.04	. 03					T.	. 01				1.20	1.18	. 18					
Bradford	Monongabela				11.0		2.1	99	. 0	3 .00		****		.03					.04	.00					. 92	. 90		1.			0 : 0 0	
larion	Allegheny		0:	2 . (42.3	14 .3	4			. 10															1.10	1.00	. 50					
lavaville	Ohio	10	0	5	15 .1	8 .4	3 . 7	70		. 07	-			.71	24					T.				· ·	.35	. 18	. 07	T.				
Confluence	Monongahela	T.	T.		5 .8	2 .0	2	. 16		1.50	1	. 01		. 55	.08					T.	T.	. 14			.74	. 20	. 20	T.	· Vo			
Derry Station	Allegheny	. 4	2		76 .3	3 .1	6 .5	16		. 15		. 23		.75					T.						. 35			. 11				
ranklin	do		. 0	1 . 5	501.0	4 .1	2 .(01 .01		. 10		10		. 38	T.				. 02	T.					1.24	. 94	. 38	.06				
reeport	do	1.30	0 .0		70 . 7	0 .2	4	80)	.40	.14	.04			. 10														. 26			
reensburg	Youghiogheny	10	0 .01	11.5	17 .1	5 .3	2 .6	30			. 61	. 02		. 40					. 01	T.	T.				. 06		. 02	. 06				
reenville	Ohiodo	01		2.0	25 1 3	0 3		07		96			T	.02					.02	.01				T.	3, 13	. 68	. 14	.08	* * * * .			
lerrs Island Dam	Allegheny	10	0 .00	2 .6	4 .5	2 . 0	4	. 57		1. 52				1.00	. 11					T.	T.	T.			. 38	. 21	.08	. 09				
ndiana	Monongahela	02	2	1.2	41.0	4	3	O	. 19			.06		. 12			***			70				***	. 75	. 00	. 21				****	
winohnstown	Monongahela	05	1.	1.2	5 3		2 .8	. 16	15	. 98		45		96					- 1		10				78			. 09				
ock No. 4	Allegheny	50	0 .00	5 .5	5 .2	5 .4	5	58		. 70				. 20	. 02										. 33	. 03						
yeippus	Allegheny	17		4	8 .0	8 .3	0 .3	10		. 39		. 61		.20 .95 .06	TP.				70	T.	10				. 29	1 90	70		1. 17			
arkers Landing	Ohio	T		1.6	2 .4	3 T		7	1.8	1.		leave.	. 29	11.100					T.		T.			. 05	. 52	. 08	. 02					
aegerstown	Alleghenydo	. 02	2	1.2	3 .2	6 .0	1 .1	2	. 20	. 26				. 02					. 02						1.40	. 45		. 06				
altsburg	Ohio	. 04	.36	. 7	42.8	0.0	5 T	. 38		. 14				. 02	. 42					.04		. 01			. 64	. 30	. 14		. 26			
kidmoreomeræet	Ohio Youghiogheny																	***		****				****	3. 10	. 00			****	****		
pringdale	Youghiogheny Allegheny Monongahela	04	. 05	. 6	01.2	7 .0	8	21		. 33				. 24	. 15						. 04				1.38	. 10	. 05					
niontown	Monongahela	. 65	.06	1.4	3 .3	0 .5	.2	7		.07			Tr.	. 60			***			T.	***	. 03		****	.98	19	* * * *	. 12		***		
est Newton	Allegheny Youghiogheny	36	0.00	. 4	8 .4	4 .6	1 .0	4 .58		.70	. 02	T.	T.	.04	. 44					T.	T.	T.			.08	. 14	T.		.04			
Maryland.			1		1															. 27												
eer Park	Youghiogheny	50	5	1.6	4 .0	0.0	.5	5 0		. 13	***	T	. 06	95			***		T	.05		.08		*.* * *	****	49				. 35	****	
	do	. 49	.02	1.6	1 .0	7 .00	1 .7	4				. 15		. 15							.02	. 16			T.	. 10		.04	. 92	****	T.	
akland																										00						
ancroft	Great Kanawha	. 2. 20	. 05	.2	8 .4	7 .90	0.	1 20	93	. 28		****	****	. 10	***				22		.11	****			. 80	. 02						****
en's Run	Great Kanawha do	04		.6	5	18	. 2	5				****	****	. 54						.26					.07	. 13		. 01				
luefield	Great Kanawha	35	. 10	1.1	2 .4	0 .10	1.1	5 .20	.20	. 25					***												. 45	.00	.32	99	. 80	
randonville uckhannon	Monongaheta	55	. 80	6	5 .1	4 4	0	5 . 90		27		. 10			. 39					. 23	.13								T.	.01		
airo	Monongahelado Little Kanawha Middle Island Cree					1.30			. 10			. 68	. 16										. 10			. 12						
entral Station	Middle Island Cree	k . 78	.06	1.2	3 .0	3 . 71	.2	9	. 03	.06	T.		T.	.77															10			
harleston	Great Kanawha Little Kanawha Sand Creek Monongahela	1. 15		.3	7 . 13	3 . 51		. 45		.04	.07	****	****	.12	***		***			T.	. 12	.00							. 10	****	****	
uba	Sand Creek	05		1.3	7 .2	7 .76	.0	3 .01		. 03	T.		. 05	. 05						T.	T.				. 12	.06		T.				
avis	Monongahela	. 1.50	, 30						. 50					. 20								, 20	****		****					. 50		
lizabethlkhorn	Little Kanawha Big Sandy Monongahela	99		.4	1 .2	3 .19	1.1	5	1.28	.08	****				T.		***	****			.07					. 04					. 12	
lkins	Monongahela	49		.3	6 .00	3 .36	.0	1	. 01	. 40		****		. 46					. 03	. 07	. 07	. 12			. 57	. 10	. 01	. 32	, 20			
airmont lenville	Little Kananha	75		2.0	0 .3	3 . 20	0.	8		.37		10		. 88	T					. 10	19							T.	T			
rafton	Little Kanawha Monongahela Great Kanawha	1. 16		.5	5 .3	0 . 18	.4	3		. 61	****	. 10	. 22	.72			***			. 03	T.	. 17				. 02	.02	. 03				
reen Sulphur Springs.	Great Kanawha	. 1. 16	T.	1.2	4 .2	1 .01	T.		. 35	.06				. 36							.07				1, 23	.77	- 44	T.			T.	
inton	Ohio	1.76	. 22		4 .6	0 .20		e .01		. 16	. 02			. 02	. 22						08					40	.00		. 100	***		
untington	Great Kanawha	1.00		1.7	6 . 1	8 .01			. 15	. 00				. 49			***			.05						. 15		T.	. 15		.07	
ogan	Guyandotte	. 1.30	T.	1.2	0 .7	5 . 15	T.		. 60	. 22	T.	700	T.	T.	T.					.48					T.	T.		. 14				
ost Creek	Monongahela Great Kanawha	. 18. (50)			20 . 10	81 × 250		1	1.	.00	.05	1.	. 10	1. 20	T.				. 00		0000			0000		-		. 00	T.			
annington	do	83		2.3	7 T.	. 01	.3	3	. 01	. 15		.01	.01	1.07	. 01					. 10	T.	. 02				.01						
arlington	do	05		.7	71.33	5	.1	1	. 23											. 57				-		- 1			10			
organtown	Monongahela							1												1.	. 00				.30				. 10			
	Ohiodododododododo	. 10		.5	0 .10	T.	. 1	0	1.00					. 65							T.				2.00	. 30						
ew Martinsville	Crost Kananka	. 18	****		. 30	. 05	.3	2		. 13	T	70	. 43	.37 .						18	. 10	00	***			. 29			ns.		20	
uttallburg	Ohio	. 07	T.	.7	1 T.	. 05	.0	1	. 08	.01	.01		. 02	T 54	***				***	T.	***	.00		***	.07	.01		T.	. 00		. 20	
arsons	Monongahela			. 3	0 .38	. 50	. 10	0 .35										.00	. 05	. 08	. 16							***	. 20 .			
hilippi	do	88	.02	-4	1 10	. 36	.3	.02	****	.34	. 02		T.	1, 32 , 60	. 02	***		02	***	32	.00	. 05	. 03	34		39						***
neville									. 46	.04					***				***	. 90							. 00			T.		
oint Pleasant	Guyandotte																															
wellton					8 00		***																									***
inceton	do	1.65		. 93	2 . 24	. 53	.1	5		.74		****							***		T.					.09						
wlesburg	Monongahela	. 1.40	. 36	.0	. 66		. 20	.48		.01	T.	. 02		40	. 84 .					. 01	. 06	.08		***		.30		00	.04 .	***		
Marvell	Ohio	1.82	****	1.3	. 51	. 12	.0	.02	. 50	. 08	I.	.02	. 33	1.35	A			000	***	***	18		***	***	****	T.	***	. 03 .	. 10	***		
Marys	Fishing Creek	36		. 53	. 11	.02	.3	3		. 12		. 05		1.20		. 02						.40						. 13 .				
encer	dodododododododo.	. 3.00		. 20	. 95	. 65	. 2	\$. 15	.08		****	. 61 .						. 05	T.					. 10	***	10				
rra Alta	Great Kanawha		. 45	1.00	. 60				. 30			. 13	. 56	****							***		***	. 52		***	***	. 10 .				***
nion	Great Kanawha			T.	2.00			.22	T.		.37										T.						. 18		. 17			
alley Fork	do	59		1. 10	. 88			.70	****		· ·	1.00		. 24 .					T	. 12 .												
ebster Springs	Great Kanawha Monongahela Great Kanawha do do Ohio Monongahela Ohio Big Sandy	1.15	T.	. 70	.40	01	T.		. 20	. 22	T.	. 05	T	25	r.	***			T.	. 13	. 15 .				. 99	. 61	. 00 .	***	. 50 .			***
ellsburg	Monongahela	1.00	.80	. 30	10		4.44	.90		. 50		.09	**	. 88	T.				***		30	. 20		***	. 00					***		
eston heeling	Ohio	30	T.	.70	. 18	1.28	T.	. 62		. 16	T.	T.		. 10	T.					T.	T.				. 26	. 24	.06	T.				
Ok's	Big Sandy	. 46	. 04	. 02	. 14			***		. 50	.04					***				***	. 40					. 10	. 02	***	. 12 .		***	***
neaville	Ohio			-		-00			. 11					.06						.02	. 02				T.	. 20						
DECENTIO	Muskingum	. 05		. 25	T.	. 12	. 44		. 18	. 02			. 04	. 37 .					.01 .					T. 1	1. 19	. 05 .	***	. 65 .				
llerontaine	Great Miami	1.21	.17			. 28	. 78		. 36	.41	***			1. 27 1. 10 . 11					. 12	.05	***	***		***	. 96	. 58	12	96		***		
densburgdis	Muskingum	18	****	21	1.20	.00	71		T	.30	***		T.	. 11					T.		***		***	.301	. 25	T.	. 40	T.		***		***
mbridge	Muskingum	94		90	. 40	00	40		07	. 10				.03				-	000						100	.50					100	

TABLE 2 .- Daily precipitation for September, 1910. District No. 3-Continued.

															D	ay c	of m	onth	la												
Stations.	River basins.	1	2	3	4	5		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21 2	2 2	3 2	2	5 26	27	7 28	29	30	31
Ohio-Cont'd.	1	1	T	1	T			1											1	1	1	T	1	1	T	1	T		T	1	
Camp Dennison	Ohio		. T.	.5	3 .35		T.	T.	.04					1.05		100H	***		. 10	. 82 .	***	. 01			4		(14			
Canal Dover	. Muskingum	T.	4	- 0	8 T.	.02		T.	***	.51		****	.04	.48	****		****		T.	***					7 .	19 .0	8 T	100			
Canton	Scioto	.0	7	. 3	T.				. 17	. 04			T.	.40			****	****	T.	***	***	***		03	5	02	1.6	36 .10			
Chillicothe	do		13		44					. 26					1.11								32					07			
Cincinnati	. Ohio		13	3 .3	0 .50				. 03					.96					. 21	. 86 .					18		0	17			
Circleville[Scioto		4 .21	7	2	15	.11	. 19	****	. 30		T.	***	. 15	****	****	****	****	T	T	T	.05	4					0			***
Clarington	Scioto	4	2 T.	.0	3 .44	. 86	.00		1, 25	T.						****	****	****	T.	T.	T.		1 9			02 T		08		* ***	****
Coshocton	. Muskingum		10	0	18	. 28	. 04			1.00				.85											16 .	77 2. 0	6				
Dayton	Great Miami	0	5 .17	7		. 65	. 60			.02				.40					.11	.04	.46 .					11 T					
Delaware	Scioto	1		1.13	2 . 2	. 12	.8	****	.59	00			T.	1.37					T.	T.			1		5 .	06		75			
Demos	Muskingum	0	R	31	9 . 2	. 05	. 07		T.	. 04	****	****	T.	.34		****			T.		***	***	**	2	0	01 21			1		
Frankfort	Scioto	1	5	5	7 T.				1.05				. 18	. 20						. 15					5		1	12			
Jarrettaville	Mahoning	0	6	- 79	6 1.38	.02	. 01							. 32										1.1	52 . 1	US	1	4			
Franville	Muskingum	T	.00	T.	2	.38			.05	. 25	,			1, 22	***	****	****		***					!	1 .	25 . 0	8 .0	07 . 10			
Pretiot	Ohio		6	1.17	1 12	21	.50		41				****	40	****		****			37	***	***	** **		5	90	0	20			
reen Hill	Muskingum		4	38	5 .00	04	00		.78	T.				. 17	T.				T.		T.			1.0	3 .	05 T	1				
reenville	Great Miami		0 1.00			. 25	2.00		. 76	.04				1.40					. 35	.04	41	Г			10 .	07	3	4			
Hillsboro				. 9	95				. 43				T.	.02					T.	. 71 .				3	57 T		3	55			
ronton	Ohio	. 0	6	. 50	90	.50		.50	- 7%			****	***						***	. 23	90	***	** **	** *	4						****
kenton	Scioto	23	S	. 24		.02	.21	. 14		****	***			. 57					. 27	. 02				18	5	09 .0	11.0	00	1		****
Killbuck	Muskingum			. 31	. 11		. 20		T.			1		. 56											16 .1	08	3	2			
ancaster	Ohio	10	5	. 17	.30	.30	. 12		.06				. 20							T				1 1	0	19 T	0	100	1000	1	
Awshe	do			. 30	. 36 T.	****			783					- 00			-		- 1	.09			T		3 .	51					
deConnelsville darjetta	Muskingum	01	. 00	. 00		. 36	48						T	00						T.	I					14					
farietta	Scioto	T.	. 02			.00	.58		.08				T	. 56					.33				1	06	7		1.0	ß			
dilfordton	Muskingum	27	.58	T.	47	. 16	.31		. 15					1.06				***		***				1	5 .	10 .0					***
Cilligan	do	02		.30		. 29	. 49		1*11																0 .	04					
fillport	Ohio	17				T.	. 13		1. 22	T.	****			. 17	T.						ne			11.4	5 .!	55 . 5	5				***
Vellie	Muskingum	T.		T. 07	70 T	30	T	1.00	. 25	T	****			. 80	****				***					0.4	0	45 0					
New Alexandria	Ohio Muskingum	T		.20	.40	. 30		4.00	. 73		****	****		- 12						***			** ***	25 1 7	3	36	9	io			****
New Waterford	Ohio	. T.				1.77								. 16					. 03							1.6	0		1		
bio State University	Scioto	22		.20	.61	.89			.79					. 35							r.			2	7		2	2			
ataskala	Muskingum	. 10							. 95	****		****	. 18	. 10	T.					.01			1	01 . 2	0 .:	29	1	9			
hilo (1)	do	T.	80	.06	T.	. 20	9 90	****	. 12					. 03										1.6	9 .1	15			***		****
iqua lattsburg	dodo	40	. 09	T	14	90	39		1 00	. 97			AR	.62				. 31	T							11		6			
omeroy	Ohio									. 00			. 50	. 00					*												
ortamouth	do	54	.02			.30		. 45		.37				.30							09										
rospect	Scioto		.02	T.				1.16	. 22														T	1	0 .7	76 T.					
tittman	Muskingum			. 70	.48		10	****		****			****	97					***				** * * *	1		2 .2			***		
henandoahidney	Great Miami	. 28	. 02		.05	.14	1.20		64	****			. 00	78					97				T	1 1	8 1	M . 2	1.6	82			
omerant##	Muskingum	. 02	.08	. 10	. 04	. 36	.01	. 12		.02				.05	T.					Г.	03			T	7:1	1 .3	0	0			
pringfield	Great Miami	44		. 02	. 60	1.95	. 25		. 60			1	1.06	. 61					.04	Г				0	3 .1	17	. 0	0			
ummerfield	Ohio					. 20	. 45			. 19			. 45						!	Г	02			18 . 6	4 .1	14					
hurman	do	95		T.	. 35	T. 1. 24	T.		. 24	T.			Т.	07						Г				T		4		1			***
rbana	Great Miami Mahoning	T.	****	.58	77	. 63	T.		T . 00	T			08	06	T				T					3.0	9 .	1	1	6			
Vaverly	Scioto	. 29	T.	. 61	.34	. 07	.03		**	.48			. 00	. 21	*													1			
avpesville	Great Miami	03				. 50	. 12							. 33					: 05 1.	08				0	6		6 .2	8			
oosteroungstown	Muskingum	. T.			. 03		T.		. 19	. 18		***	T.	. 25					T. .		**	** **	T	. 1.7	8 . (13	. 13	3			
oungstown	Mahoning	· m	. 20 T	. 90	1.35	.42	90	90		. 15	* * * *	****							***	r. :	04			. 2. 0	01.4	16 .44		06			****
anesville	Muskingum		4.	. 10	.01	. 94	. 00	.02	****	. 20	***	****	K K K K	. 10		****		* * * *				-		. 1	1.2	20 .00		. 1.	***	****	***
ig Stone Gap	Tennessee	. 24			. 15	.30	. 45	. 10	. 65	. 30			T.		T.					Г	-			T	T		. 3	0		. 15	
lacksburg	Kanawha	. 20	.06	1.00	.08				. 30				. 17	T.											(4 .0	1 .2			T.	
urkes Garden	Tennessee						T.	.34	T.	. 50																	. 4	3			
lk Knob	do				. 24	. 55	. 57	. 12	. 30	. 35	T.		. 03	T	+++						35 .	03			0	16	. 00	8	. 02	.31	
alaxvanhoe ebanon	dodo	65	01	.01	.03	.03	****	.00	. 22	37	10	.03	T	T	00	33	T	T	T	***					T	01	0	5 19		00	****
ebanon	do	. 70	.30	. 24	. 20	1100	.34	. 00	+ 44	. 23	. 10	. 00		**	. 04	. 4.4	4.	**		12	00							01		.03	****
arion	Tennessee	24		. 52	. 80			.17	. 24	. 23				T.	200		***	***		22 .	05 .	10				31	1 .3	5		. 21	
ax Meadows	Kanawha. Tennessee. Kanawha. Tennessee. Kanawha.					:						****			× 4 + 4																
endota adford	Kanamha	1.40	. 10	. 30	. 30	1. 12	. 20	. 20	. 10	.05	. 98				. 10	Tr.						86 .	0	8				24			
peers Ferryll	Tennessee.	. 15	, dU	. 44	. 90	. 92	****	.66	1.80	.42		****		***		1.	***					***	0		1 1	0 .04		10		10	
ytheville	Kanawha	T.		. 07			. 22	. 19	.26	. 10	.03			.07		.02					1				1.1	8 .00	2.5	2		.06	
Itapass	Tennessee													***			***	***		** **											
narews		1. 18	60	. 42	00		04	01		T			. 14	. 15 .		40							· · · · ·		8.		.00	. 75		. 05	
annera Elk	do	15	. 06	1, 10	. 15	.10	. 20	10		.05	T		. 04	.01		A				19			1		1	2 T	- 24	85	10	.07	****
tapass	do	. 23	3, 20	. 12	1.03	T.		140													25				1 2	3	T	T.	1 70	60	
ryson City	do	21	. 05	. 15																	87				3	0			. 60	. 05	
ryson City ullowhee	do	. 63	. 02	. 53	.02	T.	. 01	T.	. 01			1	. 12			. 03					06				. 1	8		. T.	. 31	.07	
enderson ville	do	. 74	. 07	. 90	. 42	. 02	. 04									. 14 .									. 2	9	. 26	8	. 59	.02	
ot Springs	do	. 80	00	. 25	11	40		40	. 93 .	99	en		. 05 .			. 16 .					US	!	80		. 6		. 11	.05	1.30	.11	
fferson	Great Kanawha	49	.04	. 33	22	19		. 10	14	25	T		91			16							-	0	.0	3	99	. 05	. at	T. 09	
arshall	Tennessee	10	. 50	. 39	1. 43	. 10		.10	- 44	.02		****	. 44	.16	.04	. 10 .	***			**					1 0	4 01	. 13	28	.00	13	
urphy	do	1.46	.20													***								1		1.40		. 30	. 20		
ock House	Savannah	. 03	. 09	.40	.07	. 14		. 21	. 57 1	. 20						. 20				7			. 1.)	2			. 17	. 40	1.00	.21	
aynesville	Tennesse	. 04	. 06	. 01	. 33	. 13	. 27	. 02	. 01	. 25	T.								r	7				0	1 .1	8 .02	. 01	.26	.00	. 22	
Georgia. iamond	Tennesses	1 00	0.	10					T	-	-		1	1	1	1		1	1.		1	1	1	1			1	1		100	
Afavotte.	do.	1.00	2.45	. 18		99			1.	91									7						.5	9				.46	
Alabama.		. 10	4. 10	****		. 46			. 01	. 01	***				***	200							3 3.55	1		20		***	. 42		
Alabama. ridgeportecatur	Tennessee		.08	. 16				.30	. 75	. 10															1	1			, ns	.03	
ecatur	do		. 28	. 49	.02		. 05			. 53	.30								1					1	T	1		. 62	.08	.00	
orence	do		.06	. 20	1.00					. 14 .																				. 14	
untersville	do	. 38	. 88								. 74	****								T				0	. 5	6		XXXX	. 04	T.	
ceatur. orence untersville adison verton ottsboro seumbis	do	. 18	1.40	. 64	****	****	T.	. 10	T.	. 05 .			***			* * - *				I							T.	. 10		. 17	
ottaboro	do	99	1.00	.04	. 40	****	. 08	91	.02	.01 .	***	*** *	***			* * * *			***					. T.		T.	T.	.06			
ORSHOUTO	4-		81	.00	07		***	. 41	. 90	94	***	****													.0		. 00	. 15	. 26	****	
ecumbia																															

Table 2.—Daily precipitation for September, 1910. District No. 3—Continued.

Stations.	River basins.													1	D	ay o	. m(mell									1		-			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Tennessee-Cont'd.	1_							-			_													-	10		T	T		100		
entonird's Bridge	Tennesseedo	T.	1.17	T. .06 .82	T.	.02	. 35	T.	. 10	. 19	.06	. 15	****		. 17			****	****		.03	****		T.	. 10	T.	.60	T.	. 33	T.	.10	
		25	. 70	.82	.86	.44		. 12			. 22				T.			****			T.	.76					. 08		. 44			
luff City yrdstown arthage edar Hill edina enter Point harleston hattanooga larkaville linton	. Cumberland	····	90		99			99		****						****		****	T	C3		****		****	.01			T	T			
arthage	do	.25	. 20	.55	. 05	.02	. 25	. 03					T.						4.			. 30			. 20	1.25		1				
elina	. Cumberland	T.	. 33	. 22	.04	. 12	T.	. 03			.07									. 23	. 89				. 33	. 10	. 60					
enter Point	. Tennessee		2.00	.20	. 85	T.	40		05	25									Т.	T				. 20		T.	T.				1.80	
hattanooga	do	01	.06			. 13		. 23	. 05	. 17										. 01						1.04	. 01	1	. 02	. 16		
larksville	Cumberland	19		. 20	. 02		. 32		. 16											. 05		T.			. 57	. 30			T	09	46	
linton	. Tennessee	05	. 10	. 10	.20	T.	. 40	. 10	. 15	. 95	. 17										. 35						85		. 39	.08	.80	
andridge			****	* * * *					1000		-	0000			0.0.0				FW1	40	Sec. a					0.3	0.4	1 1999	1	000	1	1
ickson	. Cumberland			.59		· · · ·	. 35		T					10					· qr	T						.02	.04	.8	9			
over	do	1.	22	. 18	18	18	- 79	30	. 16					. 12				. 16	1.	1.						. 10		.0	4	1. 26		
unlap izabethton	do	84		. 13	. 52	.73				1.07	.37				.72					.08		.47							95		T.	
asmus	. Cumberland	T.	. 24	. 45	.04	. 12	.42		.11	T.									T.	. 64				T	. 72	T.	T.	T.		.34		
orence	do	I.	. 51	. 03		. 03	I.	. 34	1.	***	****	****	****	****	****	****	****	****	****	****	****	****	****		.02	.21			8	1.		***
ranklinall's Hill	do	T.	. 65	. 15			T.	T.	T.																	. 65					T.	
arriman	. Tennessee		T.	. 56	. 10	T.	. 82		. 52											. 30						05		.2	0	T.		
ohenwald	do	00 T	. 69	1.53	. 10	. 23							. 40													1, 10			0			
on City	do	09	. 10	. 29	.41	. 07	. 05		. 23											.01	. 03						. 00	1 .4	9 .45		.46	
hason City	do	12	. 23	. 42	. 95		. 03	.05	. 13	. 53				.01						. 03			0000		40	40		.8		. 64	. 40	
hnsonville	do	T.	. 10	. 20	. 10	****	. 10	1.																	. 40	. 10						
ingston	do	11		T.	1.13	. 14		. 65	.12		T.									T.	.04							T.	.09	T.	T.	
ohnsonvilleonsboro	do	T.		. 38	. 52	****	. 63	.44	.01	. 91				.44	T		****		***·	.06	. 17	****		06	. 18	.11	T			.43	T.	***
banon	Tennesses	T.	. 20	.41	. 39	T. 13	.03	****		T	****		****	****	T	****			T.	T.	.03	.48		.00	T.	. 39		.0	9			
vingston	. Cumperland		***				****					****	***	***		E . E . E		****			***						Lenes	dere				
oudon !!!	Tennessee	16			. 54	1.05		.17		. 29											. 08	07				T.				T.	. 00	
nnville	do	· .05	. 85	. 51	20	. 45		15					****	****	****	****	****	****		****	.03	.07				.07			03	T.		
eMinnville	Cumberland	T.	2.00	.06	. 18		. 18	T.	T.						T.				. 04	. 03				T.	. 16	T.		. 3	9	.11		
aryville	Tennessee	T.		. 56	. 52	.50	T.			. 23	.01				. 45					. 05	. 11			. 01	T.	T.				.04	. 02	
ountain City	Cumbosland	06	. 19	. 16	T	. 15 T	.00		. 25	. 50		****			****	****			T		T	****	****		.09	.04	. 10	.3	1	01	T.	***
ashville	Tennessee			. 35					. 25	.75				. 12								****		. 50		. 50		.3	0			
ew River	Cumberland		. 62	. 40		. 50				. 42		****	****		· · · · ·					70	. 60	****					m		. 42		T	
						.33	.00	.40	****	****	****	****	****	****	1.		****			1.			. 11		T.	T.	1.88	0.	1			
peope	do			1.30		. 90																				.80						
ogersville	do	34	. 10	. 26	. 16	. 30	. 01	.28	. 28	. 60	.01				. 10						.04				92	. 28					.04	
ugby	Cumberland		.12	.04	.01	. 10	. 10			. 20										. 00					. 00							
vierville	do	04		. 18	. 05					. 43					. 01						.20			.20		. 14				1.30	.32	
wanee	do	26	1.36	. 39															70							· · · ·	1. 59	1.2		· ep		000
arta	Cumberland		. 15			T.	. 30		1.								0000		4.						0000	1.		1.		1.		
ringuaie	dodo	39		. 95			1.30	. 28	. 08	T.											. 19					T.		.0	6			
sewell	do	96	1.10	T.		. 85		. 52	. 12	2.10	T.				T.						. 26									70	. 34	
ıllahoma	Cumberland	T.	.11	1 90	90		. 12	90		15										. 10				****	.07	. 90	.00	. 1	. 50	,05	.01	
auing	Tennessee.	. 90	. 18	1. 25	.07	.08	.07	.06		- 419										T.				T.		.78		.2	7			
vannau vierville wanee oarta oringdale oringdale oringdile llaboma alling aynesboro iddersville orsham ukon	Cumberland	30	. 65																					. 15	.08	2.45		000				
orsham	do	03		. 35	.02	****	. 27		94	· do											T	T			20	T.		T			0000	000
				-																							-	-		1		
lpha	Cumberland		. 50	T.	T.	T.	. 15	. 56	T.	T.									1.05				.09	. 65	. 15		T.				****	***
nchorage	Ohio	95	. 56	.05	. 68	1.00	. 07	.01	18	T				T.	10				T.	.03	.05				.00	. 25	.71	. 10	0 .07			
ardstown	Kentucky	. 64	. 12	. 34		2.04				.46	. 14		T.		. 16					.22	. 94					. 22	. 28		22			
averdam	Corre		T.	.40		1.16	T.			. 20									· ····	1 90	. 10	****	****	70	***	. 18	1.75	.20	0	****		
rea	Kentucky Green Cumberland	28	. 12	05	1.08	.03	. 03	01	. 15	0.5	****	****		30	****	****	****	****	L	1. 39	.06	****	****	I.	. 50				0			
owling Green urnside	Cumberland	. 62	.50	.06		. 90	.12	. 62	.02	1. 14	.04		T.		T.					.48	1.18	. 02	T.			1.09	. 28					
dis	do			. 18			. 20		. 26					. 45											T.			. 6	. 54			
alhoun	GreenBig Sandy	94	T.	60	.72	50	.08	****	****	76	.00	****	. 02	****	.10	****	****	****		1.	.08	****	****	****		76		1				1
atlettsburg	Green		T.	. 06		T.	T.			T.				****					****					4 4 4 4	1.				· · · ·			
imonton	do	31	. 23	. 85	1.55	. 05	T.	. 14		. 09			T.	. 10					.06	1.05	. 02			T.	. 11	. 61		.00	09		.00	
bank	Cumberland	21	1. 13	2 30		2.20	.00	. 28		52				55	. 14	****			****	1.46	1, 60				.00	. 70	. 44	. 20	8	****		
almouth	do. Cumberland. Lieking. do. Kentucky. Green. do. Kentucky. Cumberland	T.		. 75	.75	. 35	. 00		1.00	. 65				. 29					T.	.90				T.	. 16	. 15						
ankfort	Kentucky	T.	.04	1.50		. 46	. 12		. 18	.03				T.	T.				T.	.78	.97				-	. 28	.47	. 15	T.			
anklin	Green	18	1.50	.16	T.	1 10	T.	02						I.	. 22				1.	1.05	1, 14	.01			.00	. 52	.01		. 18			
eensburg	Kentucky	08	. 66	.90		1.02	.04			. 02									. 04	1.70	2.46					. 65	. 98					
opkinsville	Kentucky Cumberland Ohio Green Kentucky Salt Ohio . do . do . Cumberland Licking			T.	. 45			. 20											7							. 08	T.	. 30				0
vington	Ohio	T.	T.	. 37	1.09		T.	. 31	****					****	****	****	****		1.	. 75		****			12	. 58	****			****		
itchfieldxington	Kentucky.	91	1. 12	. 16	. 25	. 05		. 10	.04					T.					.42	3.84					. 29	. 84						
retto	Salt	07		. 11	2.55	. 05		. 12											. 03	. 17					. 57	1. 10		. 21				
maville	Ohio	08	T.	T.	.87	. 03	. 03	T.		00	***		****	T.	****	****	****	****	. 27	. 16	****	****	****	****	. 18	T	1.	. 76		****		
arion aysville	do	. 22	.04	.30	.03	.17	. 06			.30			****	T.	. 25					. 22	. 18					1. 15						
ddlesboro	Cumberland		1.30		.38	. 50	.06	.42		1.30				. 43						. 22	. 42					. 03		.00			. 04	
ount Sterling	Licking	1.85	. 15	1.50	.04	. 61	. 35	T.		1.31				T.	. 16				T.	. 18 T	1.00	****	****	****	. 28	T	.10			****		***
venton	Kentucky	15	93	20	4.	4. 30	. 40	. 43	. 45		****			.20						3.87	. 00		****		. 00	. 15						
ducah	Ohio		T.		T.		. 40			. 10												. 10						. 64				
keville	Big Sandy		. 36	.06		. 90	· · · ·	. 35			. 45	. 25	****			***				1 00	T.	****	,			1.50	. 42		. 64	T.		
Iohn#	Kentucky	65	. 39	.04	50	1.60	T.	T	10	T 04	****	****	****	****	. 40	****	***	****		. 10	1.50	T.	****	****	****	, 30	.80	. 54	T.		****	
ott	Licking		.95	. 18	. 29	T.	T.	T.	.74				T.	T.					. 12	1.03			****		. 10	****		.07				
ddiesboro ount Sterling vensboro vensboro vensboro venton ducah keville chmond John out telby City elbyville velbyville ultimasburg lliamstown	Kentucky	2.44	. 07	1	1.38	. 20	. 03	. 01	T.										. 03	3.03	. 03		.04			. 97	****	T.	****			* * *
elbyville	Salt		T.	. 21		. 18	T.		. 05			****						****	. 10	. 11	. 25				49	1.76	. 05	0	****	****	****	
liemehree##	Cumberland	09	. 19	.09	. 65	.01	T	77	10	1.89	.00	.06	****	. 00	.30				.00	. 26	.80				. 03	. 80	. 15		T.			
	Cumberiand	01	. 00	. 10		. 01	00		. 20	E4 (36)	. 00	* 200			* 000				783	80	100											1

Table 2.—Daily precipitation for September, 1910. District No. 3.—Continued.

		1													r	ay o	of m	onth	h.													
Stations.	River basins.	-																	-							1			1	T		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Indiana.			1																		_					1						
nderson	West Fork, White	51	5	.35	.06	.42	1.18	T.	1.33				.23	T.					.80	, 69	T.			. 10	.27		. 13					
loomington	do			. 57	. 58	. 18	. 32	.05	. 25	.35						****			. 05 .	***	. 10					. 10		. 47				
luffton	Wabash	28	B	70		1,00	. 07		.37		****			1.35					.28	.07				. 06	. 25		. 08	. 03				
utlerville	. East Fork, White			1.03	.31	. 11	. 28	.00	T.								****		.28	. 44					. 14	. 11		. 06				
ambridge City	Whitewater	. 2.4	3 T.	. 26		. 17	1.55	. 01	. 01	. 22				. 16						. 12	1.43	. 01				. 11	***	.37				
olumbus				. 28	. 22	.03	. 52	.01	. 12	.28									. 31	.07	. 72					. 62	. 00	. 33	. 01	1		
onnersville	Whitewater	1.00	0	T.	.00	. 19	. 64	. 60	T.					. 40					. 55	. 65		T.			T.		T.	1 . 10				
elphi	Wabash	. 1/	4 . 02	. 02	.07	. 91	1.07	T.	. 81	T.				. 24		T.			. 43	. 13	. 63			T.	. 12	. 16		. 01				
minence	West Fork White	T.		. 21	. 43		T.	1,08	. 59	1, 20				T.										T.	. 28							
vansville	. Ohio			T.		. 66	. 58	. 01	.04	.06				T.					.31 .55 .43	.01					. 10	.01	. 00	T.				
armersburg	Wahash			. 08	. 20	.05	. 15	1.45	. 33										.61	. 10					. 32			. 12				
armland		1.20	0 .60	0.05		. 15	1.50		1, 10	.27			1	. 93	. 02				. 61	.24	1.70				. 77			. 25				
roenfield	. East Fork, White	T	7	50	41		1 36	T.	30	-			T.	.05					. 65 1	.02					1,05		T.	. 17			1	-
reensburg	. do	. 51	Q	. 12	- 15	. 29	. 51	56	T.	- 10				.52					- 100	- 200					- 21							
	Webseh			00	1-122																											
untington	do	9.1		65	3.30	99	1 10		50			****		1 95				T	50	***				.08	68		.01		1	1		
dianapolis	do	T	00	01	40	1.54	T	.02	36				.01	. 00				. 03	. 50 .	. 24				T	. 27	1	.90	. 00				
Compositio	Obio	16		01	63		14	.01					. 01	T					26	25					36	27	-	1.10				
effersonville	Wahaah	00		00		9 70		00	60	****			50	T	****				T	-				. 15	.40	T	. 15	T				
day ville	do	21	T T	.00	T	07	10	T	75		****		T	90	***	****		****	91 1	00				T	90	T	19					
okomo	40		0 01	00	T.	87	1 95	T	84	00	****			98	****	****	****		08 1	40	0.5	****			10	90	. 84	09				****
afayette	Wabash do West Fork, White Ohio Wabash do		.01	. 03	1.	.06	1 20	A.	. 04	04	****		****	- 20		****	****		.001	0.0	.00	****			70	000		07	****			
ogansport	do		04	.04	, 03	.00	1. 33		. 10	. UR			****	.00	****	***	***	****	. 00	. 02	.00			****	1 10	.00	****	.04			****	
adison	. Ohio			. 22	. 93		. 10	1.		****				****	****		****	****	.24	790	7		****		. 10	T		40				
arengo	do		1	.33	2.27	****	. 92	. 18	****	****			***	****	****		***	* * * *	. 00	-00	0.0		****	****	.00	1.		. 90				****
arion	. Wabash	11	.27	. 60	42.	. 10	, 82	. 10	. 32	.04	****		****	. 80			****		.70	.00	. 20		****	****	. 10	.04	70	. 20				
arkle	do	40		.90	T.	. 35	. 75	T.	****	. 40			T.	**32	2,00	T.	****		T.	***	T.	***	***		T.	. 40	T.	T.	****			
ausy	. East Fork, White	01		.40	.25	. 02	1.00	. 02	. 08			****	****	. 45				****	. 40	. 81				Τ.	. 18	.20		. 99				
onticello	. Wabash			T.	.07	3.58	. 07		.41	****			. 58	.06				. 36	.03	*22				. 75	. 18		. 02	****				
oores Hill	. Ohio			. 38	. 19	. 05	. 10			T.				. 03					. 181	. 34					.08	T.		.21				
ount Vernon	do				. 06	1.94	1.02			. 66															.00	.00	. 46	. 08				
oli	. East Fork, White	17	.03	. 63	2.10		1.04	. 40	. 03	.06									. 11	. 03					.09			.01				
inceton	. Wabash			1.70	2, 10		1.36	1.30		.20				. 10											. 10			.27		. ves		
chmond	. Whitewater	. T.	.06	T.	. 61	1.58	T.	T.	.11			****	. 40			****	****	. 10	1.09	. 70					. 10	.09	.37	. 29				
oehester	. Wabash	04	T.		. 12	2.00	. 20		.27				. 11	2.13					. 90					.47	. 22		T.					
ockville	do	T.		. 10	. 33	2.53	.00	. 14	1.27	. 08			. 40	T.					. 03	. 05				. 16	. 57	.01	. 12	. 05				
оше	Ohio.		T.	. 98	1, 65	. 01	. 50	. 33	. 10										T.	. 16		. 02			.01	. 04	T.	.34	. 01			
Jamonia	Wahash	. 74		. 12			.78		. 60					2.00											.30	.04	. 19	. 05				
dem	Ohio	99	2	57	1.05	T.	67	. 16	.02										. 16	. 10	.02				. 05			10				
ottsburg	East Fork White				1.32	-	23	26	,	34									.30	.06				. 09			. 68			1		1000
Occording	do	00		43	44		1 34	07	20				****			****			38	06					.01	.04		. 24				
elbyville	do	T			10		60	T	10				****						70.1	10					- 30	T		20				
erre Haute	Wahaah		****	96	16	98	10	46	16	00		****		0.5						28					38		06	98				
edersburg	. Wabash	0.5	49	. 00	. 10	1 10	10	05	9 87	. 00	****	****	08	.00					05	20		****		15	99		10	01				
edersourg	01	00	90	.00	.00	1. 10	. 10	. 00	90				. 00	90					95 1	78		****		. 10	15	T	. 10	1.5	****	****		
vay	· Unio	90	. 20	2 00	. 30		50	****	. 20	1 05	***			. 20					. 20 1	T	m'	m'			10	-	***	15				
ncennes	. Wabash	30		2,00	.90	1.20	1. 30	. 90	. 80	1.00				****	****					A .	A		****	****	. 10	. 20	****	. 10	****	***		
ashington	. West Fork, White						***		****				****		****			****				***		****	****	****	****			***	****	
hitestown	do		****	****	****	1111	***		* * * *			****	****					190					****	****		****	0.0		****	***	****	****
nona Lake	Wabash		****	****	. 10	1. 31	. 33	****	. 12	****	***		. 10	. 35	***			4.	70	146	****	***		.02	. 20		. 00	****	****	****		***
Illinois.				1															-			- 1			***							
bion	. Wabash		****	****	1.12	, 35	. 04	1.72	.02	. 69			****							. 13 .				****	. 18		.00					
arleston	do	10	.05	. 18	. 40	.41	.02	. 76	. 34				.27							.05				.06	. 90		. 24					
anville	do		.01	.03	. 07	1.33	. 05	. 04	3, 29	****			. 40							. 74 .				. 14	. 67		.07					
uality	. Ohio	03	T.	T.	.50	T. 1	. 54	T.		.79				T.						0.0	T.				.06	. 59						
irfield	. Wabash			. 11	.02	. 88 2	. 66	1. 10		. 48										. 27				***	. 60		. 04	. 19				
ora	Wabaah do			. 61	1.04	. 10	. 22 1	1.65	. 41	. 58										Г				T.	. 42		T.	****				
	Ohio	22					. 42		. 53																T.	. 05		. 47				
	Wabash	01		. 01	.02	2. 47	. 02		1.07				. 63	.00						.04				. 28	. 41		.07		****			
opestonLeansboro	Ohio	. 47			1	1. 06 1	. 15			. 65															. 24		.50	. 27				
rtinsville	Wahash				. 25	. 25		.40	.30	. 00			. 25							T.					. 70		. 15					
Carmelli	do	1 74		46	1.70	99 1	18	80	1.08	54			. 20								.04				.40	. 36	. 10	. 16				
Carmel	Ohio		00	. 40		07	79	. 50		36											. 00				T	31	. 10	T				
	Wahaah		9 10	10	1 50	57	. 10	99	44	. 30								0000	T	08		000		T	87	. 01	11				0000	
ney	wabash		4. 12	. 10	1.00	.01			. 22			****	****	****					A. I	.00	***	***			. 01	****			****		****	
iestine	do		5 × 1 5	0.0	****		***	90	40				****	****							200	***	****	****	90	40		94	****	***	****	* * * *
ria [do		. 10	.00	. 63	144	. 33	. 20	. 47				****	. 93					***		A		****	****	. 30	. 40	****	. 20		***	****	****
110	do		. 00	.00	. 30 1	.77 .	***	. 05	. 92	****		***	. 35	****						L.	***			. 15	. 36	****	. 41	****		****	****	****
ntoul	do	. T.	T.	.06	. 12	. 40	. 25 .]	. 82	.09				. 66							. 41 .			.06	. 48	. 03		. 19				
binson	do		1.60	1	1.11	. 85	. 30	. 88	. 62			. 02						***	T.		***	***		. 35	****	.06	. 05		****	****		
mner	do			2.713	3. 53	. 71 1	. 51 1	. 82		. 15										r	***				. 29			. 11				
scolall	do																												****	****		
		785	793	0.4	.171	0.0		P93 4	00		-		4.00					PR0 1		0.00												

Table 3 .- Maximum and minimum temperatures at selected stations, September, 1910. District No. 3, Ohio Valley.

		Penne	ylvani	ia.								West '	Virgini	a.										0	hio.			
,		Greenville.		Pittsburg.		Charleston.		Elkhorn.		Elkins.		Glenville.		Huntington.§§		Morgantown.		Parkersburg.		Wheeling.16		Canton.ff		Cincinnati.		Columbus.		Dayton.
Date.	Max.	Min	Max	Min.	Max.	Min.	Max	Min.	Max.	Min.	Max	Min.	Max	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max	. Min.	Max	Min.	Max.	Min	Max	. M
	70 83 83 76 88	60 42 59 63 66	75 80 81 80 86	62 59 66 66 69	80 83 83 83 83	70 65 68 67 68	79 82 80 81 83	65 62 64 63 62	76 81 76 85 85	64 64 63 64 61	82 85 81 88 89	68 63 68 65 65	83 86 82 85 90	67 64 65 68 69	76 81 81 81 81 82	63 59 64 68 67	78 83 83 84 89	64 61 68 69 69	78 85 87 85 90	67 58 61 68 68	68 80 83 76 88	60 49 58 65 68	77 84 83 81 87	63 60 70 69 70	70 82 85 79 88	59 57 68 67 68	68 84 90 81 90	
	87 79 82 72 72	73 52 52 50 39	82 78 83 71 70	68 65 62 54 50	86 84 87 76 77	70 68 65 64 58	83 81 85 77 73	64 67 58 61 53	84 81 84 73 75	68 56 54 49 44	88 88 90 78 75	68 63 61 61 46	87 88 88 75 73	72 68 64 67 51	84 81 85 79 73	68 63 58 56 44	86 84 88 72 75	72 65 65 56 48	85 87 86 77 77	69 60 61 62 46	81 81 83 65 68	70 57 56 58 40	82 85 88 75 73	72 66 69 58 52	82 81 83 71 71	68 64 66 57 46	83 85 84 72 75	
	81 86 71 70 73	43 49 57 48 35	80 83 72 69	63 63 59 53 47	82 82 82 80 72	60 65 69 62 50	81 83 80 78 79	58 57 59 61 50	80 85 76 69 70	57 56 61 48 43	85 89 78 83 75	50 58 51 63 48	84 83 81 76 74	57 63 67 60 51	81 84 78 67 69	60 59 65 55 44	83 87 77 72 72	63 62 64 56 49	84 88 79 74 74	49 57 60 53 43	80 82 66 69 70	48 52 61 50 39	85 89 78 71 73	54 69 63 56 50	82 82 70 71 72	51 63 56 51 46	85 90 72 72 72 74	
	75 78 68 78 79	37 40 40 59 58	71 72 69 75 75	49 50 57 63 64	74 76 76 73 80	45 47 56 52 64	71 70 70 67 78	42 44 44 43 57	70 72 73 75 73	39 39 40 53 59	77 78 79 72 80	43 63 45 56 64	76 77 78 74 77	46 48 52 60 62	71 74 79 76 72	43 47 49 62 62	75 77 80 70 70	46 48 53 63 65	77 79 74 71 76	46 47 49 53 60	72 75 81 77 77	41 45 54 60 63	76 80 77 70 79	54 53 61 64 63	75 80 73 71 76	49 53 61 64 64	79 82 73 69 76	
	77 75 82 72 80	53 39 47 60 60	77 74 83 82 79	59 52 62 64 66	81 81 85 83 85	65 60 62 65 63	77 79 81 83 85	57 58 54 52 56	76 79 83 82 82	57 52 55 56 56 55	82 87 86 84 87	52 54 60 58 57	80 81 87 87 82	62 55 57 64 61	77 76 84 85 84	62 49 60 63 63	79 81 86 86 88	62 56 60 64 62	82 80 86 84 82	62 48 51 55 64	78 74 80 76 77	57 47 53 62 62	80 79 86 80 78	62 58 61 65 65	80 76 85 82 79	58 52 58 64 63	82 80 87 81 80	
	70 71 68 78 73	59 55 48 39 39	76 80 63 72 77	63 62 54 49 54	82 81 79	63 52 59	81 80 75 74 71	54 55 60 48 57	80 80 72 76 77	57 54 49 49 51	85 77 80 84 81	61 56 46 57 53	83 84 76 77 82	59 60 57 48 -51	80 84 74 76 78	64 69 54 44 57	81 85 72 77 80	62 61 54 50 50	81 84 70 76 81	64 61 52 49 50	71 72 67 69 73	61 61 49 49 44	84 74 72 74 80	65 59 53 54 52	79 73 67 72 77	63 56 49 82 52	83 73 72 78 80	
5	76.6	50.7	76.1	59.1	80.8b	61.5b	78.2	56.2	77.7	53.9	82.4	57.4	81.2	59.8	78.4	58.0	80.1	59.6	80.5	56.4	75.3	54.6	79.3	61.0	77.1	58. 2	79.3	5
		Ohi	io.			Virgi	nia.												Tenn	08800.								=
	Warton	-	N. C.	and	Big Stone Gan.			wytheville.	N Allerday			Decatur, Ala.99		Chattanooga.	Company		Knowellle	PHOLONO.	Neabrella	The state of the s		raimetto.		Sparta.		nay amendro.		Beattyville, Ky.
2	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Mir.	Max.	Min.	Max.	M
	77 85 87 82 90	58 52 67 69 67	76 85 83 80 91	65 57 62 61 68	80 81 81 80 82	69 64 63 68 66	79 84 78 82 82	65 62 65 64 64	80 79 78 85 85	64 63 65 61 63	83 89 87 91 92	73 71 71 71 71 72	81 79 86 89 87	72	******		86	69 67 67 66 68	92 86 89 88 88	68 70 70 71 76	89 84 87 89 89	69 64 67 71 72	90 88 88 90 91	66 65 64 66 68	92 88 88 87 87	68 68 68 70 74	87 87 85 80 88	-
	84 86 86 80 78	67 57 63 59 28	89 89 88 76 71	71 61 62 64 48	83 81 81 79 81	68 68 63 63 62	83 80 86 75 66	65 63 59 62 58	83 82 84 79 70	64 64 62 61 57	94 96 96 85 88	71 71 70 70 67	88 88 91 86 82	70 69 66			84 88 88 83 81	70 68 67 65 64	87 91 91 85 83	75 71 70 69 63	92 90 94 89 86	71 73 67 69 62	90 88 90 86 88	71 67 70 63 65	89 91 90 84 83	72 67 68 68 61	87 91 91 83 77	-
	85 85 73 74 77	42 60 59 47 39	85 92 81 76 78	49 55 63 54 44	80 80 83 75 73	61 62 63 65 57	81 80 80 75 71	57 59 59 62 49	80 81 82 74 67	58 61 61 63 55	90 93 93 87 87	67 66 68 60	83 87 89 85 81	66 68		*****	85 86 87 78 78	66 65 63 64 61	88 91 93 80 79	63 68 68 66 61	90 92 93 84 82	66 65 63 69 54	89 90 90 81 80	63 63 63 62 57	88 89 80 78	64 64 62 62 56	88 91 92 74 77	-
	82 84 75 75 81	42 45 57 60 63	80 82 78 76 76	45 43 47 45 61	71 72 73 70 79	46 47 49 55 63	68 70 74 70 76	43 41 43 55 59	72 70 71 73 79	48 45 44 47 57	86 86 87 91 95	61 55 53 53 60	78 79 75 77 88	55 54 60		*****	77 75 77 71 84	57 53 51 60 62	81 84 78 85 89	55 56 56 56 69	84 86 84 90 95	52 50 52 62 62	83 82 78 85 89	53 50 52 58 58	79 81 81 84 87	52 50 50 56 59	79 84 84 69 88	-
	85 83 82 77 77	56 47 56 61 62	83 84 90 87 85	50 51 54 57 61	79 81 81 80 79	63 57 58 59 58	80 76 80 82 80	54 52 60 58 57	79 78 76 80 78	55 54 63 56 60	94 93 89 92 92	63 64 62 62 62	88 88 85 85 85 88	66 69 67		*****	84 87 87 85 84	62 63 65 61 64	88 89 92 80 82	66 65 67 64	92 94 93 88 89	58 61 69 63 63	88 90 90 88 88	60 56 60 62 60	86 90 93 86 89	58 60 61 63 62	84 83 88 89 77	5 5 5
	80 73 72 77 78	54 61 47 42 44	87 83 78 81 83	63 60 48 44 45	80 80 75 71 73	57 59 61 54 60	83 80 75 66 70	55 54 54 52 55	79 79 75 66 74	56 58 57 58 59	92 92 76 85 89	63 63 64 65 62	85 87 82 77 77	65 64 63		*****	84 85 80 73 80	60 64 63 62 64	89 77 78 81 84	60 67 62 63 60	90 89 79 82 88	60 65 61 62 61	88 85 82 78 80	58 62 63 62 65	88 85 79 81 87	63 67 62 59 62	89 86 80 82 86	55545

Table 3.—Maximum and minimum temperatures at selected stations, September, 1910. District No. 3—Continued.

							Kent	ucky.												Ind	iana.							
	Bowline Green.	=		Earlington.19		Greensburg. II		Lexington.		Louisville.		Maysville.19	Williamshure	3		Butlerville.		Evansville.		Indianapolis.		Кокото.		Rockville.		Worthington.		Philo, III.
Date.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min
1 2 3 4 5	90 91 91	67 67 68 65 69	91 89 93 91	67 69 68 69	90 87 84 85 88	64 64 65 65	82 82 82 80 85	65 64 68 68 68	86 85 87 74 89	67 65 71 60 60	84 89 86 84 90	67 63 64 67 68	90 88 87 85 90	69 62 65 67 66	85 87 83 81 87	65 67 67 66 67	88 87 82 75 86	69 68 70 69 70	71 80 80 78 83	59 58 67 69 69	71 76 84 82 84	55 51 64 67 68	73 78 80 78 84	62 57 65 68 69	81 82 79 77 83	69 62 68 68 70	74 78 82 81 85	61 56 82 66 70
6 7 8 9	97 97 87	72 67 70 67 55	89 97 96 82 85	72 66 72 64 52	88 92 92 92 83 77	72 66 65 64 53	82 87 83 75 72	71 70 70 56 52	84 90 91 76 75	71 72 71 60 54	87 91 90 77 80	73 66 66 66 50	87 91 91 87 88	72 67 67 64 58	86 87 89 80 75	64 63 68 58 46	80 91 90 74 75	89 72 69 59 54	82 77 86 72 70	68 68 55 50	81 85 81 79 71	67 59 67 59 43	80 80 85 72 69	68 64 67 53 47	81 82 86 80 72	68 65 67 63 50	82 82 87 74 70	66 65 64 55
1 2 3 4 5	93 93 94 81	58 64 64 67 55	94 97 93 78 82	53 69 64 65 52	78 90 92 75 74	52 59 62 62 62	84 86 85 70 70	59 68 67 57 53	88 92 89 75 73	56 72 70 59 55	90 93 83 77 78	50 58 61 59 47	89 91 91 76 77	60 62 63 67 54	85 90 84 74 72	47 68 68 62 48	87 91 80 77 73	58 71 66 60 55	81 86 69 70 72	52 68 64 57 50	79 80 66 68 74	41 41 58 50 42	80 85 65 69 71	50 60 60 54 48	82 87 80 74 72	49 67 56 59 48	81 85 65 68 69	41 63 55 51 45
16 17 18 19	90 78 87	48 49 55 59 60	86 89 88 91 93	44 45 49 65 62	89 77 71 72 85	42 43 51 55 55	73 78 73 66 77	52 54 59 60 63	79 84 77 72 80	53 53 62 64 63	80 83 82 72 76	44 47 50 60 59	79 82 81 70 86	46 48 48 51 47	.80 82 76 73 82	45 46 58 61 62	. 80 83 85 84 81	54 55 62 67 65	76 77 81 76 78	53 54 61 66 62	79 75 77 77 77 75	43 44 58 54 59	76 79 84 79 78	50 52 60 65 59	78 79 85 78 77	48 48 59 65 64	77 82 85 79 79	4: 4: 5: 6: 6:
21 22 13 14	89 91 95 96	61 60 61 65 60	90 91 96 84 78	60 55 61 61 60	84 82 90 84 92	55 55 54 58 60	78 78 84 80 72	59 57 65 64 61	82 82 88 80 74	61 61 65 69 65	84 84 94 87 84	55 57 60 64	85 89 90 89 88	61 50 60 57 62	82 81 93 80 81	56 55 60 67 63	82 86 89 81 77	62 62 65 70 63	79 78 78 74 71	59 57 61 65 58	78 76 76 74 67	52 53 55 63 55	78 79 71 72 71	54 57 62 64 56	80 81 79 75 74	56 54 60 67 61	79 81 71 71 70	52 52 60 57 57
26 17 28 29 10	90 81 81	59 62 54 54 55	92 73 79 85 87	58 61 52 49 82	90 80 77 77 77 82	56 56 52 51 52	81 74 70 74 80	59 60 53 52 57	85 75 73 76 82	64 59 53 54 53	89 87 77 83 83	57 59 49 49 50	87 82 79 79 85	58 60 62 55 57	86 75 75 79 83	62 59 42 48 56	84 69 72 74 83	63 56 52 55 58	77 69 72 75 78	57 56 52 54 54	69 68 71 75 77	46 45 42 41 41	72 67 71 73 77	55 54 42 52 52	79 72 73 76 81	59 59 44 48 47	74 67 70 76 80	52 48 40 48 47
Mns	88.6	61.2	88.3	60.2	83.6	57.5	78.1	61.0	81.4	62.7	84.2	58.1	85.3	59.8	81.8	58.8	81. 6	62.9	76.5	59.6	75.8	52.8	75. 9	57.5	78.8	59.3	76.8	55.

Climatological Data for September, 1910. DISTRICT No. 4, LAKE REGION.

Prof. HENRY J. Cox, District Editor.
D. CUTHBERTSON, Forecast Official, temporarily in charge.

GENERAL SUMMARY.

The month of September, 1910, in Climatological District No. 4 was generally pleasant throughout. As compared with September of 1909, the temperature conditions were somewhat similar except in the Ohio portion of the district, where the mean temperature of the present year was nearly normal, exceeding that of 1909 by about 2°.

In most sections the amounts of precipitation received in 1910 contrast markedly with those of the same month of the previous year. The abundant rainfall in the watershed of Lake Champlain effectually relieved the serious situation in which users of water power in that section have been placed for several months due to the low stages of the streams. In the western Lake Superior region, where the precipitation for the month was below the normal, the levels of the streams continued considerably lower than the averages for this season of the year.

The following table of averages summarizes the main features of meteorological interest in the various portions of the district:

				Me	ean.					
		rmal.		rmal.		Nur	nber	of d	ays.	tion.
Portions of States lying within District No. 4.	Temperature.	Departure from normal	Precipitation.	Departure from normal	Snowfall.	.01 inch or more precipitation.	Clear.	Partly cloudy.	Cloudy.	Prevailing wind
Minnesota Wisconsin Illinois Indiana Upper Michigan Lower Michigan Ohio Pennsylvania New York Vermont	54. 9 58. 8 65. 2 64. 4 55. 3 60. 0 65. 0 63. 2 59. 0 56. 8	+ 0.1 - 1.8 + 0.6 - 1.0 - 0.6 - 1.5 0.0 - 0.8 - 1.4 - 1.5	3.76 4.22 3.90 4.01 2.53 2.92 4.96 2.57 3.02 4.58	- 0.41 + 1.12 + 0.88 + 1.30 - 1.04 0.00 + 2.36 - 0.95 + 0.36 + 1.45	0 0 0 0 0 0 0 0 0	7 7 9 10 8 8 10 11 10 12	10 15 12 13 15 13 14 10 13	10 7 7 6 6 7 8 9 8 7	10 8 11 11 9 10 8 11 9	ne. sw. sw. ne. sw. sw. sw. sw.

TEMPERATURE.

The mean temperature was slightly above the average for the season over the region to the northwest of Lake Superior, the extreme southwestern shore of Lake Michigan, the northern and western counties of the Ohio portion of the district, and in localities of New York State; elsewhere there was a deficiency of temperature, but the mean departures did not, as a rule, exceed -2° .

The month opened with temperatures slightly below the normal, but warm weather set in over the middle and eastern portions of the district on the 3d, and became general by the 5th. The maximum heat of the month occurred at most stations in the middle and western portions during this period, which continued until the 9th, when, in advance of a high pressure area of considerable magnitude, a cool wave overspread the district. Cool weather continued until the 13th in the extreme west, and until the 25th in the New York and Vermont sections, with the exception of the 12th, when several stations in the eastern portion of the district reported the highest temperatures of the month. This single day of high temperatures from Ohio eastward was due to the rapid passage across the district of a trough of low barometric pressure. Warm weather set in over the western portions on the 14th, and gradually extended eastward, becoming general by the close of the month.

But few frosts occurred, and no damage of consequence was reported, except in the extreme northeastern sections. In localities of this part of the district the frosts of the 15th, 22d, 23d, and 29th injured late vegetables, especially those growing in low places. In Vermont, considerable protection from frost

was afforded by the valley fogs which prevailed during the nights of the latter part of the month. Reliable reports state that in the vicinity of Sandusky, Ohio, pear and apple trees freely blossomed during September, and strawberries bore a second crop of fruit.

PRECIPITATION.

With the exception of the Lake Superior region, the Lower Michigan Peninsula, and the Pennsylvania area, the precipitation averaged about 1.25 inch above the normal, the departure ranging from +0.36 inch in the New York State portion of the district to +2.36 inches over the Ohio section. In Lower Michigan, while the average for the peninsula, as a whole, showed normal conditions, there was geographically an irregular distribution of rainfall. Over the northern counties nearly normal rainfall occurred, the central tiers of counties suffered a deficiency of slightly more than 0.50 inch, while over the southern portions an excess of about 0.25 inch occurred.

In point of time the precipitation was well distributed throughout the district, although the greater amounts fell generally during the first half of the month. The rainy periods during the first and third decades were the most extensive, covering from 6 to 8 days each in most portions of the district, while at about equal intervals between these times there were two shorter periods of from 1 to 2 days each on which showers prevailed.

The heaviest precipitation fell in the region to the south of Lake Erie, where a number of stations reported 24-hour falls of more than 2 inches. However, the greatest 24-hour fall recorded at any station was 4.21 inches, at Menasha, Wis., on on the 5th. The abundant rainfall in northern Ohio broke the drought which has prevailed there for several months. The following report to the Columbus Evening Dispatch from Fremont, Ohio, indicates the value of the September rains:

A sauerkraut famine, which was threatened the first of the month, has been averted by the heavy rains of the last few weeks. Cabbage, which was selling at \$10 a ton during the dry spell, has dropped to \$3 a ton, and is plentiful at that price. All plants of this city, which is the American sauerkraut center, are working over time.

MISCELLANEOUS.

Severe local storms.—The number of severe local storms was not nearly so great as during the month of August. A series of thunderstorms, however, occurred over the Vermont portions of the district during the closing days of the month. These disturbances caused considerable damage locally. In a number of instances buildings and haystacks were set on fire by lightning and destroyed. Roads in many places were washed out and telephone and electric light service was interrupted to a marked extent.

Fogs.—Fogs were rather more prevalent than usual over northern Indiana, and the region of western Lake Erie and southern Lake Huron. No serious interruption of navigation occurred as a consequence, however, and no casualities were reported.

Brilliant meteor.—The following description of a meteor of more than ordinary brilliancy observed at Fremont, Ohio, was furnished by Mr. J. Warren Smith, Section Director, Columbus, Ohio:

On the evening of September 3 one of the largest meteors ever seen in the vicinity of Fremont traveled across the northern sky from east to west, its motion being unusually slow. It was bright blue in color. When about 30° above the western horizon it broke into many pieces, the effect being that of a mighty sky rocket exploding in the air. Each of the score or more of pieces retained the vivid blue color of the original body, until it disappeared close to the western horizon. From the northwestern part of the county word comes that a heavy report was heard when the meteor burst.—Fremont Daily News.

TABLE 1.—Climatological data for September, 1910. District No. 4, Lake Region.

			É	Ten	peratur	e, in de	egree	Fabr	renb	eit.	Pre	elpitatio	on, in i	nches	Bys.	1	Sky	,	1 .	
				1	peracun	0, 111 (1			CILIA	1	-		,		d d	-	JA.		- Inop	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeited.	Number of rain	Number of	Number of part	Number of	Prevailing wind	Observers.
Minnesota.	St. Louis	1, 133	39	85.6		78	30	34			4.20	+ 0.65		0.0		7				U. S. Weather Bureau.
Mount Iron	do	1,510	16	53.6	*******	89	7	26			4. 10							1		M. H. Schussler. Oliver Iron Mining Co.
Stephens Mine Two Harbors Virginia	Lake	1,500	16	56.8	+ 0.6 + 0.9	86 81 85	7 20 7	27 33 29	9	38	3.37 3.30 3.83	- 1.26	0, 90 1, 20 1, 17	0.0 0.0 0.0	7	10 11 9	15	7 4 11	ne.	Do: George W. Watta. Oliver Iron Mining Co.
Wisconsin. Appleton		795		60,6	- 1.5	79	81	41		33	6. 12			0.0				7 9	e.	Wm. O. Thiede.
Ashland	Bayfield	635	2	57.2	- 3.2	86		38			3, 39		. 1.60	6.0	5	18	2	10	s. ne.	Wm. O. Theede. Sam Wheeler. Ruben V. Ryder. Louis W. Schmidt. Daniel V. Jones. Calvin T. H. Riggs. Fred S. Evans. Geo. W. Marshall.
CecilChilton	Shawano	xxx SUN		57.0 58.6	- 3.2	82 83	8 7 7†	38 40			5. 27 4. 26		1.60	0.0				5	SW.	Louis W. Schmidt.
Crandon	Forest	1,000	15	56.2	- 1.6	75	71	35	15	39	2.30	- 1.26 - 1.49	0.60	0.0	7	23	0	6 7	8.	Calvin T. H. Riggs.
Florence	Florence	1, 293		54.7 59.9	- 1.9 - 1.3	80 83	17	34 35	28	36	1.63	- 1.23	0.49	0.6		18		8	se. ne.	Geo. W. Marshall.
Grand River Locks	Marquette	770	14	59.2		83	7 7 7	32 43	28	40	4. 78	+ 0.92 + 3.12	1.32	0.0	7	19		8 4 14	8.	Jeny Parkinson.
Green Bay		1,096		53. 2 57. 3	+ 0.1	83 82	7	32	12	28	3.43	7 3.12		0.0	7	11	11	8	sw.	U. S. Weather Bureau. Harry C. Hall.
Kewaunee	Kewaunee	590		58.4 58.9	- 6.9	78 86	8	45 43			5. 72	₩ 9 00	1.38	0,0				12	s. sw.	Harry C. Hall. Eugene V. Kimball.
Manitowoc Menasha	Winnebago	764	13		- 6.9	*****					7.13	+ 4.06	4.21	0.0	7		2	8	sw.	Johanna Lups. George T. Allanson.
Menominee Falls Milwaukee	Waukesha	842		59. 6 61. 4	- 0.1	81 81	81	37 48	28 10		2.28		. 0.72	0.0			3 5	10	ne. ne.	Arthur H. Christman. U. S. Weather Bureau.
New London	Outagamie	762	14	59.1	- 1.5	83	7	36	28	36	4.83	+ 1.54	1.60	0.0	7	13	8	9	se.	August H. Pape.
Deonto	Oconto	590	19 21	58. 6 60. 7	- 2.2 - 1.8	82 84	7 7 7 7 7	40 39		33	6,00	+ 1.98	2.52 1.95	0.0						William K. Smith. Evan Vincent.
Pine River	Waushara	900	15	59.4	- 1.7	82	7	39	9	36	6.63	+ 3.67	2.62	0.0	6	11	14	5	SW.	George H. Carpenter
Plum Island		588		57.2 59.4	*******	70 78	71	47	12 28	30	3.85			0.0	6			10	s. nw.	John P. Whelan. Paul O. Feldrappe.
Port Washington	Ozaukee	713	17	59.3 61.6	- 1.9 - 2.7	80 86	81	43 42	28		2.24	- 0.77 - 2.17	0.72	0.0	7	18	6	11 7	se. ne.	Richard C. Kann. Daniel Davis.
Racine	Fond du Lac	935		61.4		82	8 7	44	91	30	5.95		. 2.77	0.0	10	16	6	8	W.	Ripon College.
Sheboygan	Sheboygan	831		59.8 57.4	- 2.2 - 2.4	82 78	8 8	40	13 29		3.41	+ 0.31	1.13	0.0	7	15	10	10	se. ne.	Ripon College. Louis C. Meyer. Adam N. Dier.
Sturgeon Bay	Douglas	671	1	56.0		84	7 7	37	9	32	4.66		1.22	0.0	8 7	10	12	8	sw.	Edward B. Banks.
Naupaca	Waupaca	857	14	58.2	- 2.7	85	7	34	28	39	6, 04	+ 2.79	1.89	0.0	7	10	5	15	sw.	James H. Flagg.
Chiengo	Cook	824	40	65.2	+ 0.6	83	8	49	27	24	3, 90	+ 0.88	1.41	0.6	9	12	7	11	SW.	U. S. Weather Bureau.
Indiana.	DeKalb	874	14	61.0	- 1.7	80	21	38	111	36=	2, 30	+ 0.65	1.04	0.0	9	14	1	15	nw.	Mrs. Josie B. Kuhlman.
Berne	Adaras	849		65.3	******	87 85	5	42 45	101				1.27	0.0	12 10	12	12	6 9	ne.	H. M. Reusser.
Elkhartj Fort Wayne	Allen	775		66.4 64.8	- 0.7	88	5	41	29	40	5.12	+ 1.91	1.31	0.0	10	13	7	10	8. 6W.	Dr. Miles Medical Co. Orion E. Mohler.
Hammond	Lake	598	19	66.0 62.0	+ 0.4	90 83	8	40 42	111		2. 19	- 0.65	0.61	0.0	8	7 16	10	13 14		Carson W. Whitney.
Howe	St. Joseph			63.8	- 1.8	85	5 5 8	42 47	15 15	35	6.31	+3.28	1.22	0.0	8 17	12	4 3	14	n. se.	James E. Zook. Henry H. Swaim.
Nhiting	Lake	606		66.2	******	87			271		1. 10	******	0.84	0.0	4	18		9	ne.	D. H. Boyd.
Baraga	Baraga	1.300			********	85	7	30	12	45		******		0.0		13	1	16	w.	D., S. S. & A. Ry. Frank McMonigal.
Blaney	Schoolcraft	** ******	. 3	******				29	24		3.25		0.90	0.0	7	19	2 5	9	8.	Dr. S. S. Hackwell.
Chatham				55.2 52.8	- 0.2	80 74	7 7 7	37 26	18 22	29 42	2.72 2.23	- 1.02	0.90	0.0	9	16	5	9	W.	E. S. Grierson. U. P. Experiment Station.
Deer Park	Luce	610	9	54.8		78	7	35	22	31	1.75			0.0	8	16	1	13	8.	Mrs. Sara E. McGaw.
Detour	Chippewa Keweenaw	585		55.8	- 0.2	78	7	39	19	28		- 1.80		0.0	7	9	13	8	w.	Dr. F. E. Cameron. John Nolen.
seanaba	Delta	612	37		- 1.1	74 82	8 7	41 30	12	30 42		- 0.19		0.0	11 8	10 19	8	12 11	s. s.	U. S. Weather Bureau. W. B. Hatfield.
irand Marais	Ontonagon	610	9	53.8		70	7	39	12	27	1.50	*******	0.60	0.0	9	12	7	11	DW.	Mrs. Lena Truedell.
Houghton	Houghton	1,536	13	56. 2 52. 8	- 6.3	86 78	7	40 28	18	35 44	2.89	- 0.65 - 2.55	1.33 0.52	0.0	10	12 15	7 3	11	w. w.	U. S. Weather Bureau. D., S. S. & A. Ry.
ron Mountain	Dickinson	1, 111	9	57.6		81	17	28 37	22 22 28	37	1.42		0.63	0.0	6	21 22	5	4	se.	Chapin Mining Co
ron River	Iron	1,504	13	53. 2 56. 6		82 82	7 7	30 38	28 12†	42 31	3.50	*******	0.66 1.06	0.0	10	19	5 4	3 7	W.	Victor D. Laing. Prof. J. V. Brennan. Cliv'd'Cliffs Iron Co. John H. Malone. M. I. S. P. Com.
ahpeming	Marquette	1,536	10		******										****	****				Cliv'd'Cliffs Iron Co.
sle Royale	Mackinac	831	10						****	****		*******	*****		****		****	****	******	M. I. S. P. Com.
Taple Ridge	Delta	734	4	53.4 56.4	- 0.4	74 73	14	28 37	22 21	36 31	2.84 1.77	- 1.74	0.98	0.0	9	19	10	10 12	S.	
Aarquette	Menominee	581	39 11	58.8	- 0.4 - 0.8	77	8	42	28		4.47	+ 0.81	1.64	0.0	7	21	6	3	sw.	U. S. Weather Bureau. C. & N. W. Ry. D., S. S. & A. Ry. C. & N. W. Ry. D., S. S. & A. Ry. U. S. Weather Bureau.
Newberry	Luce	773	8	55.7	- 1.5	80	2	31	10	43		******	*****	0.0		9	18	2	8.	D., S. S. & A. Ry.
t. Ignace	Mackinac	593	20	57.2	+ 0.5	75	7	35	29	35	2.44	- 0.51	0.95	6.0	8	19	4	3 7	W.	D., S. S. & A. Ry.
ault Ste. Marie	Chippewa	1,347	22 13	54. 2 53. 5	- 0.1 - 2.5	75 82	15	38 29 28 30	29 22 10		3.11	- 0.35 - 0.68	0.80 1.28	0.0	13	9	8 12	13 11	e. w.	D., S. S. & A. R.Y.
ictoria	Ontonagon	1, 263		56.8	******	-83	7 7 7	28	23 21	39	2.69		0.90	0.0	10	19	2	9	sw.	R. S. Schultz, jr. B. N. Grant.
Vatersmeet	Alger	878	13	54.5 54.2	- 0.6	81	7 15	28 41	21 22	39	2.59 1.11	- 2.74	0.65	0.0	10 2	10	0	16 12 13	s. n.	D., S. S. & A. Ry.
Whitefish Point Michigan - Lower Peninsula.	Chippewa	610	20	2 C ()		77 74	16	41	41		1.90		0.66	0.0	9	13	4	13	se.	Robert Carlson.
drian	Lenawee	770	32	64.3	- 0.8	86	31	40	10†		5.32	+ 1.86	1. 65	0.0	7	14	4	12	8.	B. F. Gibbs.
llegan	Gratiot	750	19 23	63.4	+ 0.8	87 86	7 5	40 37	10† 10		2.93	+0.44 -0.50	1.00	0.0	8	14	10 5	12 11	W. SW.	Pere Marquette R. R. P. M. Smith.
lpena	Alpena	100.00	23 37	56.5	- 0.8	82	8 5	40	14	30	4.06	+0.58	1.28	0.0	10	14	8	10	nw.	U. S. Weather Bureau.
nn Arborrbela	Tuscola	728	30	62. 2 59. 8	- 0.6 - 2.9	85 84	8	39	10 22	40	2.95 1.98	+ 0.18	0.75	0.0	8 9	12	11	13	n. sw.	University of Michigan. Wm. Atkin.
rbela	Calhoun	822	26 14	62.4	- 1.4	82 80	8 7	41	22 22 22	37	2.97	+ 0.15	1.65	0.0	7 8	13	5 12	11	sw.	Elmer E. Sager.
ay City	Bensie	832	14	61.2	- 0.7	****	8		****		2.15	- 1.38	1.05	0.0				5	8.	Pere Marquette R. R. Martin S. Joiner.
erlinig Rapids	St. Clair	906	21 14	60. 0 57. 4	- 1.8 - 2.2	83 81	8	37	10	28 39	2.87	+ 0.02	1.02	0.0	8	7 18	12	11	nw.	P O Could
loomingdale	Van Buren	300	6	62.1	- 2.2	83	7 7	37 35 39	10	40	3.25	- 0.07	0.50	0.0	8	13	6	10	sw. se.	Charles Gay. John M. Haven. A. J. Teed. Michigan Central R. R. Pere Marquette R. R.
adillac	Wexford	1, 293	1 9	57.2	******	80 90	7	38 43	22 10†	32	2. 26 6. 10		0.64 1.30	0.0	9 7	12 21	6	7 9	sw. ne.	A. J. Teed.
harlevoix	Charlevoix	610	32	58.8	- 1.9	77	8	42	19			- 1.26	1.06	0.0	4	16	5	9	ne.	Pere Marquette R. R.

TABLE 1.—Climatological data for September, 1910. District No. 4—Continued.

			L Y	Tem	perature,	in de	egree	s Fah	renhet	t.	Prec	ipitation	, in in	ches.	day		Sky		tion.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.		Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy .01 inch or mo	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind	Observers,
Michigan-Lower Penin- sula-Cont'd.																				
harlotte heboygan	Eaton	611	20	60. 2 55. 7	- 4.2	80 78	5 7 5	37 32	221 2	34 38	2.67 2.40	- 0.66	0.95 1.25	0.0	11 7	13 10	3 16	14	sw.	City of Charlotte. E. A. Bouchard.
linton	Lenawee	830	20 13	64.6	+ 0.9	87 84	5	38 41		41 33	4.02	$+1.33 \\ +0.68$	1.51	0.0	7	15	10	5	se.	David Woodward
oncord	Jackson		. 5					39	11 .	***	2.83	1 0.00	0.72	0.0	8	15	11	4	sw.	Lake Shore & Mich. So. 1 Dr. W. N. Armstrong. G. R. Mus. Power Co.
roton	Newago Wayne	685 730		63,3	+ 0.2	82 84	7 5	37 48		37 29	2.26 2.02	- 0.46	0.70	0.0	10	10	18 10	6 10	w. e.	G. R. Mus. Power Co. U. S. Weather Bureau.
urand	Shiawassee	799	3	60.7 57.6		86	5 7	35 40	22 4	42	2.21		1.29	0.0	4	14	5 0	9	SW.	Grand Trunk Ry.
ast Tawasloise	Wayne	640	13	62.6	- 2.8 - 1.6	87	5 9	38 39	14 4	39 40	3.35 2.17	+1.15 -0.67 $+0.02$	1.00	0.0	5 7	14	7	9	8. 80.	Detroit & Mackinac Ry. John Gilmore.
lintrankfort	GeneseeBenzie	730 589		59.8 59.2	- 1.7	80 87 82 76 83 76 87 80	7	43	22 2	34° 26	2.59 3.57	+ 0.02	0.75	0.0	9 5	15	3	12	W.	Wm. L. Fisher.
anges	Allegan	665	1	61.6	******	83	7	42	101 3	36	2.05	*******	0.58	0.0	10	14	2	14	sw.	Capt. Geo. Moreney. H. H. Hutchins.
aylord	Otsego	1, 367 794	14	54.8 58.6	- 0.6	87	29	39 33	11 4	34 46	3.44 2.85	+ 0.20	2.04 1.00	0.0	3	15	5	15	8W.	Michigan Central R. R. Geo. R. Smith.
rand Haven	Ottawa Kent	628	29 21	59.2 61.8	- 2.4	80 83	7 7 7	42 43		31	1.98	- 1.10 - 1.54	0.74	0.0	9	14	3	11	H. H.	U. S. Weather Bureau. U. S. Weather Bureau.
rand Kapids	Monroe	625	20	63.4	- 1.0	86	5 5	40	10 4	40	2.56	- 0.00	1.05	0.0	7	11	11	8	sw.	Joseph W. Morris.
rass Lake	Jackson	989	21	61.8		84	5	41	22 3	33	3. 62		0.80	0.0	8	13	2	15	sw.	Menzo Conklin. Dr. Oscar Palmer.
arbor Beach	Huron	635	22	60.5	- 0.7	84	8	38		36	3.40	+ 1.13	1.00	0.0	7	16	4	10	S.	Pere Marquette R. R.
rrison	Clare			59.2 56.8	- 0.4 - 2.6	89 83	7 8	39 38		40° 34	2.89 3.73	- 0.24 + 0.78	0.75 0.85	0.0	8	18	3 12	5	sw.	Dr. D. W. Mitchell.
art	Oceana	698	18	60.4	- 1.2	81	41	40 38	29 13†	35*	4.00	+1.17 + 1.03	1.00	0.0	6	11 10d	9 54	10 11d	s. nw.	Pere Marquette R. R.
yesghland	HuronOakland	830	18		- 1.0						2. 61	- 0.80 + 0.89	0.85	0.0	5					C. F. Leipprandt. A. D. De Garmo.
lisdale	Hillsdale	1, 150		61.7 59.6	- 1.4	84 78	7	40 33		36	3.85	+ 0.89	0.97	0.0	8	17 15	4	8	80. 8W.	A. D. De Garmo. Prof. C. L. Herron. City of Holland.
well	Livingston	924	18	59.9	- 2.9	85	5 7	40	10 3	37 i	4. 96	- 2.82	1.24	0,0	7	15*	7-	20	sw.	Frank Sharp.
kson	Kalkaska		21	56.3 62.6	- 3.0 - 2.1	80 84	5	36 39		38	2.74	-0.41 + 1.09	0. 21 0. 78	0.0	7 9	11	11	8	nw. sw.	O. L. Giddings. City of Jackson.
ldo	St. Clair	667	21	61.1	- 1.0	84 83 84	8	40	10 3	32	2.54	- 0.13	1.08	0.0	6	14	7	9	nw.	William Bice.
lamazoo	Kalamazoo		34	64.0	+ 0.9	81	8 9 7 7	45 37	22 8 22 8	34	3.87	+ 0.77	1.01	0.0	10	15 13	3 4	12 13	se.	Kalamazoo Asylum. U. S. Weather Bureau.
nsing (Agr'l. College). nsing (Capitol)	do	881	23	61.6	- 0.3	82	7	40		37	2.96	-0.04 + 0.22	0.78	0.0	11	13	3		sw.	State Board of Health.
peerdington	Lapeer	827 586	11 12	58.8	- 2.8	79	2 7	40	161 3	30	4.07	+ 2.20	1.62	0.0	6	15	7	4	w.	Michigan Home. Pere Marquette R. R.
therckinaw	Lake	1,028	14	57.2 53.8	- 4.7	82	16	33 40		10		- 1.45	0.85 0.75	0.0	12	14	6 20	10	w. nw.	John W. Nichoson. Grand Rapids & Ind. R
ncelona	Antrim	1, 121	14	54.2	- 3.9	79	7	26	13 4	10	2.81	-0.54 + 2.19	1.20	0.0	7	20	0	10	e.	Do.
dlanddland	Manistee	600	13	59. 9 60. 9	- 0.2 - 0.5	82 74 79 79 85	7 7 5	26 37 38		13	4.56 0.51	+ 2.19 - 1.73	1.80 0.11	0.0	7 5	20 14	5 10		sw.	Pere Marquette R. R. Do.
ntague	Muskegon	660	7				5							0.6	6	13	8			Gerard A. Whitbeck.
renciunt Clemens	Lenawee	811 615	10	63.7		85 85	12	42			3.86	+ 0.35	1.47 0.78	0.0	9	10	8	12	e.	George J. Tripp. Water Works.
unt Pleasant	Isabella	826 587	11 14	58. 4 59. 2	- 2.7 - 2.7	82	2† 7†	33 40			2.46 1.30	- 0.26 - 2.57	1.14	0.0	3 5	20 15	3 2	13	W.	Pere Marquette R. R. Grand Rapids & Ind. R
skegon	Muskegon	858	16	58.6	- 2.4	82 79 80 79	7 5	41	21 3	ЮР	3.60	+ 0.46	1.65	0.0	7	1	24	5	W.	E. O. Ladd.
vet	Eaton	934 616	20	60.0	- 1.5 + 0.6	88	3	40 33	24 4	19	2.24	- 1.15	0.85	0.0	9	19	9		B. DW.	Prof. G. A. Knapp. Detroit & Mackinac Ry
away	Presque Isle	826	7	57.4		88 78 85	10†	33 35 35 34	22† 3	17	2.30		1.20	0.0	3 11	17	9 2	17	SW.	Do.
osso	Clinton Shiawassee	760 731	20 13	60.1	- 1.3 - 2.0	82 75	8	34	22 3	17	2.24	+ 0.25 - 0.55	1. 02	0.0	9	13	10	7	sw.	Dr. B. L. Bates. Owosso Sugar Co.
oskey	Emmet	660 725	20 13	59.5	- 0.2	75	1†	41	17 2	14	1.47	- 1.19 + 1.47	0.60	0.0	8 7 7	15	3 7		sw.	Grand Rapids & Ind. R. Pere Marquette R. R.
mouth	Wayne	935	10	65. 6	+ 3.4	84	5	40	10 3		3.09	+ 0.57	1.25	0.0	7	15	4		sw.	Fred W. Shaw.
rt Austin	Huron St. Clair	618	14 35	60.8	- 0.1	81	6	43	10 2	8	2.41	- 0.27	0.78	0.0	10	15	5	10	ne.	Pere Marquette R. R. U. S. Weather Bureau.
ed City	Osceola	1,033	14	55.1		*****		31	22 3				0.71	0.0	8	10°		2=	*****	Pere Marquette R. R.
inaw	Saginaw	1, 141 601	8	62.4	*******	84	8		101 3	2	1.81		1.00	0.0	6	9	14	7	sw.	Postmaster.
inaw, W. S	do	601 681	15	60.8 54.0	- 1.6	84	8	42 37 35	14 3		1.96	- 1.17	0.85	0.0	10	10 11°	8 5ª		sw.	Robert B. Hudson.
Joseph	Charlevoix	593	23	63.3	- 0.5	85	8 7	44 32	10 3	0	4.85	+ 1.68	1.50	0.0	12	12	3	15	sw.	Rev. N. Wilhelm. City of St. Joseph.
duskyanac	Sanilae	790 639	15	59. 2 60. 0	- 1.7	85	8	32 35		3	1. 64	- 1.83	0.88	0.0	10	11 10	6 2		sw.	Pere Marquette R. R. John Wallington.
th Haven	Van Buren	585	14	57.0	- 5.4	80 85 85 84 78 86 79 74	21	40	11 3	4	3.75	- 1.83 + 0.52	0.75	0,0	8	17	9 2 12	4	sc.	Mrs M E De Diemar
nton	MontealmLapeer		17 33	59. 8 60. 2	- 1.3 - 2.7	79	8	38 38 36	10 2		2.80	- 2.71 - 0.29 - 1.59	0.65	0.0	8 5	16 8			sw.	City of Stanton. Dr. J. S. Caulkins. Grand Rapids & Ind. R
verse City	Lapeer Grand Traverse. Tuscola St. Joseph Ingham Ogemaw Montmoreney Washtenaw	588 641	13	56.4	- 5.2	74	9	36	10 2 22 2 21 5	6	1.57	- 1.59		0.0	5	20 4	20		8. sw.	Grand Rapids & Ind. R
sar	St. Joseph	842	13	62. 9 62. 2	- 0.8	84 82	41	33 41 36	15 3	4	3.23	+ 0.23	0.82	0.0	11	15	1 6	14	SW.	Pere Marquette R. R. Chas. A. Palmer. I. R. Wadsworth.
berville	Ingham	884 973	8 7	61.2	******	82	14	36	22 3	9			0.77	0.0	8 3	12	6		aw.	I. R. Wadsworth. Michigan Central R. R.
odlawn	Montmorency	310	8	53.5		82 82 90 78 86	8 5	34 40		8	4.94		2.25	0.0	11	12	8	10	nw.	T. C. Mathews.
Ohio.	Washtenaw	736	25	62.2	+ 0.4	86	5	40	30 3	8	4. 15	+ 1.08	1.00	0.0	9	10	18	2	nw.	Orin J. Bemiss.
on	Summit	1,081	23 17	65.8	+ 1.5	88	5	41	15 3	4	3.29	+ 0.26	1.96	0.0	10	12	1		sw.	Prof. C. R. Olin.
vling Green	HancockWood	800 670	30	65.2	- 0.7 - 0.9	87	5 5 5	40	15 3 10† 3	9	8. 02 4. 90	+ 5.51 + 1.99	2.37 1.20	0.0	10	15	6	9	SW.	J. W. Powell. G. C. Housekeeper.
yrus	Crawford	1,000 762	15 39	64.7	- 0.7	88 87 87 92 88 89	5	41 42 40 35 46 45	10 4: 15 2:	2	5. 92	+ 3.21 + 0.89	3.00 1.78	0.0	9	12	11		8. n.	James R. Hopley. U. S. Weather Bureau.
veland (2)	Cuyahoga	754	13	64.8	+ 0.3 + 0.1	89	5 5 5	45	15 3	1	5. 32 -		2.13	0.0	9	12	8	10	ne.	Rev. F. L. Odenbach, S.
ineaut	Ashtabula Defiance	675 712	16	65. 1 63. 4	- 1.8	89	31	41 39	10† 3 10 3	8	3. 23	+ 1.48	1. 19	0.0	11 12	10 12	11 4		ne.	E. L. Ransom.
dlay	Hancock	776	21	65.1	- 0.8	89	3† 5 5	39	10† 43	2	6.53 -	+ 3.69	2.00	0.0	12	16	8	6	sw.	John F. Heilshorn. Dr. E. A. Moser.
mont	Sandusky Paulding	628 725	16	65.2	- 1.1	88	9	38	15 34 10 3	8	4. 98 . 6. 35 -	+ 4.04	1. 19	0.0	8	20	8 5 7 13		sw.	E. Stanley Thomas. Charles Stutzman.
lhouse	Lake	997	18	63.2	- 0.2	88 87	5 5 5	38	15 33	2	3.33 -	- 0.49	0.92	0.0	8	17 12 13	13 10	5	ne.	J. W. Doncaster.
dson	Portage	1, 260	26 49	64.5	+ 1.2 + 0.3	89	5	37	10 33	0	4. 63 - 6. 75 -	+ 1.24	1.63	0.0	10	19			SW.	Prof. G. H. Colton. Dr. W. I. Chamberlain. Miss Ollie De Long.
18	Allen	875	11	64.2	- 1.0	89 88 90 87 85 87	5	39 42 38 38 43 37 42 35 41	15 3: 10 4	2	5. 27	2.93	1.28 2.77	0.0	9	15 16	7 9 6 6	6	sw.	Miss Ollie De Long.
ntpelier	Medina Williams	944 880	22 18	65. 6 64. 6	+ 0.4 + 0.8	87	5 5 5	41	10t 3	8	3.02 -	- 0.04	0.74	0.0	8 7	16		8	w.	F. W. Clark. G. L. Laser. A. C. Senter.
noleon	Henry	680	24	65.2	- 0.1	85	5	41	29 20 10† 3	6	3.36 -	+ 0.71 + 2.56	0.75	0.0	10	18 13	13		8.	A. C. Senter. Miss Lillian Grothaus.

TABLE 1.—Climatological data for September, 1910. District No. 4—Continued.

			É	Temp	erature,	in de	gree	Fah	renh	eit.	Preci	pitation	, in in	ebes.	lays.		Sky		tion.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy of	Number of	Number of part-	Number of cloudy days.	Prevailing wind	Observers.
Ohio-Cont'd. North Royalton. Norwalk. Oberlin. Ottawa. Sandusky. Trifin. Toledo (1). Toledo (2). Upper Sandusky. Vickery. Wauseon. Wellington. Willoughby. Pennaylvania.	Huron. Lorain Putnam Erie Seneca Lucas do Wyandot Sandusky. Fulton. Lorain	719 855 720 629 775 769 606 854 588 780 856	24 35 18 33 28 39 6 27 17 38 16	64. 9 64. 6 65. 6 64. 4 65. 8 65. 0 65. 0 64. 8 67. 5 66. 0 63. 8 63. 1	- 0.4 - 0.5 + 1.5 - 1.5 + 0.5 + 0.9 + 1.7 + 0.5 + 0.2 - 0.2	90 90 89 86 88 87 85 85 91 90 87 91	55 55 55 55 55 55 55 55	40 40 40 41 42 44 47 46 42 40 40 38	10 10† 10† 10† 10 10 10 10 24 10† 10	33 41 39 36 27 31 25 28 36 43 40 41	6. 48 8. 27 3. 30 6. 85 1. 76 1. 35 2. 67 4. 96 4. 29 5. 62	+ 1.97 + 7.17 + 3.95 + 5.82 + 0.62 + 4.26 - 0.60 + 0.18 + 2.62 + 1.71 + 3.17 + 0.95	1.65 2.12 2.11 3.90 1.20 2.68 0.63 0.50 1.70 1.88 1.12 2.73 0.65	0, 0 0, 0 0, 0 0, 0 0, 0 0, 0 0, 0 0, 0		12 13 9 0 13 13 15 17 15 10 14 14 16	14 2 16 20 9 9 8 6 6 13 9	4 15 5 10 8 8 7 7 7 10 7 10 7	De. sw. b. sw. sw. sw. sw. sw. sw. ne. w.	W. S. Edgerton. Dr. Albert Sheldon. Prof. F. F. Jewett. Prof. J. T. Maidlow. U. S. Weather Bureau. Prof. T. H. Sonnedecke U. S. Weather Bureau. J. A. Krance, S. J. Prof. R. J. Kiefer. John W. Barr. Thomas Mikesell W. D. Warren. C. J. Richardson.
Erie New York.	Erie	713	37	63.2	- 0.8	86	5	46	29	22	2.57	- 0.95	0.85	0.0	11	10	9	11	S.	U. S. Weather Bureau.
Adams CenterAngelicaAppletonAuburnAvonBlue Mountain Lake	Allegany	1, 340 270 715 585	27 19 41 15	60.4 59.0 60.4 61.7 60.4	- 0.7 + 0.2 - 1.1 + 0.7 - 1.2	80 82 82 87 80	6 6 6 6	39 30 40 39 39	22 15 23 22 22 22	32 42 34 34 31	2.09 3.25 4.06 5.91	- 0.35 - 0.88 + 0.16 + 1.01 + 3.25 - 1.68	1, 21 0, 60 1, 25 0, 90 1, 65 0, 63	0.0 0.0 0.0 0.0 0.0 0.0	11 12 5 11 8 8	11 3 16 20 13 22	12 12 8 7 7 4	7 15 6 3 10 4	n. w. n. n.	A. E. Cooley Chales P. Arnold. H. A. Van Wagoner. A. H. Underwood. W. G. Markham. B. F. Merwin.
Brockport Buffalo Canton Cape Vincent Carvers Falls	Monroe Erie St. Lawrence Jefferson Washington	537 767 448 246 243	14 59 16 5 12	61. 2 62. 0 55. 6 58. 5d 57. 5	- 2.2 - 0.9 - 3.7 - 2.7 - 2.0	83 79 78 76 80 75	12 12 12 12 12	29 45 31 38 30 34	22 22 22 22 22 10	31 25 34 25 ^d 37	2.55 2.16 2.56 1.64d 2.84	- 0.05 - 1.02 - 0.25	1, 05 0, 87 1, 76 0, 99 0, 68	0.0 0.0 0.0 0.0	9 10 10	12 12 10	9 5 11	9 13 9	sw. sw.	W. H. Lennon. U. S. Weather Bureau. Do. Verne M. Rice. Washburn Fancher.
Chasy Dannemora Elba Fayetteville Jabriels Harkness	Genesce	1, 490 500 530 1, 729	9	57. 6 57. 2 59. 0 63. 2 54. 8 56. 4	- 3.7	77 80 86 78 78	8† 12 12 6 6 6	33 35 40 27 34	19 19 22 23 23 19i		2.57 4.55 3.77	- 2.71 + 1.99 + 1.32	0. 15 1. 17 2. 70 1. 42 1. 40 0. 97	0. 0 0. 0 0. 0 0. 0 0. 0	3 9 6 11 13 10	17 11 18 16 10 20	5 8 3 6 11 5	11 11 9 8 9 5	8. W. SW. SW. SW.	W. R. North. W. N. Thayer. Jos. S. Wilford. Dana H. Wells. Sanatorium. J. W. Harkness.
femlock Lake. funt thaca Geene Valley Ging Ferry	Livingstondo Tompkins Easex Cayuga	900 1,321 928 1,000	11 32 12 10	60. 8 62. 5 62. 3 55. 8	- 2.3 - 0.1 + 1.7 - 2.0	82 84 83 80	6 6 8	40 36 38 30	22† 15 15 19	31 34 33 43	1.97 4.64 3.22 3.27	+ 2.68 - 0.49 + 1.81 - 0.24 + 0.83	3. 24 0. 46 1. 90 1. 20 0. 80	0. 0 0. 0 0. 0 0. 0	7 8 11 15 12	12 8 9 15 12	7 15 8 6 6	11 7 13 9 12	n. sw. nw. s. nw.	D. H. Westbury. W. S. Barrager. U. S. Weather Bureau. E. R. Wells. Lucius A. Goodyear.
ake George ake Placid Club Roy ockport owville	Genesce	1, 864 920 650 900	13 2 20 23 43 14	59. 8 51. 2 60. 8 59. 8 58. 0	+ 0.5 - 2.5 + 0.4	80 74 81 80 83	12 12 12 12 6	37 28 40 38 31	23 10† 22 22 22 23	34 38 31 31 38	2.78 4.99 2.79	+ 0.84 + 1.99 - 0.02 - 1.35	1. 02 1. 43 1. 09 0. 77 0. 55	0. 0 0. 0 0. 0 0. 0 0. 0	13 12 12 12 12 7	12 14 11 14 18	6 6 5 6	12 7 13 11 6	n. w. s. sw.	Charles Forsell. Henry van Hoevenberg. F. W. Ball. J. E. Wakeman. Charles J. Rice. Milton St. John.
yndonville foirs Vehasane	. Franklin	200	10	58.0 54.4	- 3.0	81 78	12	35 28	22† 23	33 38	9 PG	- 2.17	0.39	0.0	8	14	8	8	w. n.	C. E. McBride. A. C. Heyburn. H. A. Paull.
North Lake	Herkimer St. Lawrence Herkimer Oswego Cattaraugus	1, 822 175 1, 733 335 1, 410	9 26 2 40 6 51	58.7 58.6 30.6	- 2.6 - 2.1	78 79 83 83	12 8 6 11	35 29 45 38	23 23 22	34 37 25	2.17 3.48 1.77 3.51	- 0.58 - 1.04 - 2.37	1. 20 0. 70 0. 42 0. 84 0. 10	0, 0 0, 0 0, 0 0, 0 0, 0	6 14 9 12 11	13 10 11 14 18	14 8 7 6 7 5	12 12 12 10	ne. w. s.	H. A. Paull. State Hospital. Stuart W. Nelson. U. S. Weather Bureau. William Winke. E. B. Bartlett.
Perry City	Schuyler	1,038	30	59. 4 59. 3	- 0.1	84 70	6	33 36	15 22†	40 33	3.12 -	+ 0.38	0.54	0.0	13 10	11 8	5 18		n. w.	W. H. Jeffers. E. D. Babcock.
lattsburg lotsdam laquette Lake lochester	St. Lawrence Hamilton Monroe	170 300 523	81 81	53.4 55.3 61.6	- 4.4 - 0.3	78 74 82	7† 6 12	25 35 44	22 22 15	30	2, 21 3, 60 5, 18	- 0.87 + 2.86	1. 18 1. 23 1. 81	0. 0 0. 0 0. 0	12 12 12 11	20 14 13	0 4 5	12	w. sw. sw.	T. P. Davison. A. E. Sutuerland. R. J. Dunning. U. S. Weather Bureau.
hortsville	. Ontario	740	18		- 2.2	83	6	42	23†	31		+ 2.60		0.0	13	13	8	9	ne.	John H. Coryell. C. H. Latting.
kaneateles yracuse iconderoga	do	597	15 8 12	61.8	+ 0.2 - 1.8	84 80	6 71	41 35			5. 01 3. 30 3. 31	+ 1.93 + 0.48 + 0.32	1. 30 1. 57 1. 25	0.0	14 10 6	10	5 5	15	8. 8.	Edward Conron. U. S. Weather Bureau. Eva M. De Lano.
rudeauupper Lakeolusia	Franklin Chataugua	1, 620 1, 522 1, 167	17 10 11	55. 6 60. 8	- 1.1	75 82 84	6 5	35 38	10†	33	2.54	- 0.71 - 6.92	0.87 1.38	0.0	10 8	15 10	5	10	w. s.	Daniel Smith. Aaron W. Maddox. Benjamin Breads.
anakena atertown edgewood estñeld oungstown	St. Lawrence	737 1, 430 837	0 18 21 14 8	56.8 59.0 61.7 61.4	- 2.3 + 0.1 - 1.6	84 78 84 84	4 6 6 5	29 37 39 40	191	28 31 27	1.95 3.23 3.82	- 1.91 + 0.48 + 0.63	1.05 0.96 0.66 1.02 1.20	0. 0 0. 0 0. 0 0. 0 0. 0	9 11 15 11 6	12 14 15	8 10 7 25	8	sw. sw. nw.	J. Otto Hamele, H. F. Dunlap, Orlando F. Corwin. John R. Rogers. B. V. Brookins.
Vermont. urlington ornwall nosburg Falls orthfield	Chittendon	404 507 601 876	3 17 19 24	56.4 58.8 56.7 54.7	- 2.5 - 2.1 - 1.3 + 0.1	75 78 78 78	12 5 12 4†	36 37 31 30	23	30	2.75 6.76 2.68 4.72	- 0.31	1. 63 2. 50 0. 88 2. 23	0.0 0.0 0.0 0.0	12 9 13 12	9 14 12 10	10 3 4 7	13 14	s. s. n.	U. S. Weather Bureau. C. H. Lane. L. Howe Pomeroy. U. S. Weather Bureau. H. L. Hindley.
utland	Rutland	750	19	57.2	- 1.6	74	4	37					1.15	0.0	13	11	10		8.	H. L. Hindley. E. R. Pember.

s, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

* Precipitation included in that of the next measurement.

* Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

† Separate dates of falls not recorded.

Data are from standard instruments not supplied by the U. S. Weather Bureau.

† Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

Estimated by observer.

† Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

Table 2.—Daily precipitation for September, 1910. District No. 4, Lake Region.

9-44	Direct to the														Di	ay o	f mo	nth.															
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Minnesota.		1					-									m						m			150	00							
uluth	. Lakedo		1.28	****		1.22	T.		****	****	****	. 54	****			T.	****					T.	. 43		T.	. 26	1.09 1.70						4
ount Iron	do																																
ephens Mine	do		90			.20	- 27		. 05			. 27	****			***			****		****		. 68			. 15		.00					3
rginia	do		1. 17			.30	.30					. 26											. 53			.27	. 80	. 20					. 3
Wisconsin.													90					1.16						O	1. 69		. 29						. 6
hland	Lake		1. 26				. 17			****		. 32											. 02		-	T	1 57	O					9
yfield	Fox.		. 1.31	T		78	. 19	T				63	1 30			****	****							T.	1.00	.35	1.00	****		***		****	
													1. 32	. 02				. 08	T.				. 20	*	1.00		. 18						1
andon	do		20	19																					.40	.50	. 10						1
ond du Lac	Fox			.08		.48	.07					1.21	. 26					T.						. 17	.42		. 13	T.					. 1
and River Locks	Lake		T	T	00	1.30	. 70		T		****	1 21	. 85		* * * *			1.76		T.	****		. 60	. 10	1.32								
on River	do		. 1. 15	. 02			.27					. 45											T.		. 02		1.42	. 10					. 3
ewaunee	do					2.11	.06						. 82			****		1.10 1.03	****					36	1. 16		. 23		***				
enasha																		.28 T.	T.				. 17		1. 52		. 06						. 7
enominee Falls	. Lake			.50	28	.52	97			***			. 72	T.				T.					.01		. 28		. 18					****	1
ew London	Fox.					. 63	. 18						1, 20			****		. 72						. 20	1. 00		-	30		1	ALC: N		- 4
con'to	. Lake				. 33	. 45	. 03					1.57	. 90					T.					. 08	1.00	1.85		.04			× * *			4
shlosh	do			T.		2.62	29		T.				. 91	T.										. 15	2.24		. 38	T.					. 6
lum Island	. Lake			. 24		1 00	. 52		TP.				1, 15					. 02	T.						1. 24		. 03	. 23					. 3
	do																								. 73		. 36			· · · ·			. 3
acine	do				T.	. 48	. 28			***			. 43					. 14		T.				. 04	. 05		. 05						. 1
heboygan	Lake			T.	***	1.47	T.	****	T.	***	****		1.06	. 02		****	****	.17	T.		****	****		. 36	. 78	.01	. 18	. 05					. 2
urgeon Bay	do					.61	.06					.50	1.61					. 63						. 21	1. 17		. 31	.04					. 4
uperior	do		87	. 50		64	. 17					.41	1.68		****		T.	.78					.00	. 30	1.89								6
Illinois.			1		1			1				1				****	****	-			****		-	1	-				1	1	1		1
hicago	. Lake Michigan	T.		. 55	1.05	.41	. 17		.12				1.28					T.					T.	. 10	. 11	T.	.06						. 3
uburn	. Maumee	10	6	.11	. 10	.50	. 53		.48					. 15					. 23		T.				1.04			T.					. 3
erne	do	10	6	. 95	.01	. 08	. 72		. 49				47	1.27	T	****		T	. 70	.01				35	1.16		. 03	.00		***			5
ort Wayne	. St. Joseph	01		. 03	1.92	1.31	.70		. 23		****		. 46	1. 12				T.	. 33	.cı		****		. 18	1. 20		T.	T.					. 5
ammond	. Lake Michigan		. 61			. 52	. 20				. 32		. 10	. 16				****	. 08 .				. 20					19				****	2
outh Bend	St. Joseph	T.	1	****	1. 16	1.22	. 42	.01	.82	. 02			****	.95	.01				. 63		.02	. 02		. 18	. 67	. 02	. 03	. 12	.01				. 6
Michigan—Upper	Maumee do St. Joseph Maumée Lake Michigan St. Joseph do Lake Michigan	. T.											. 84					T.		. 12				. 10			. 04		***			****	. 1
Peninsula.																																	
araga	. Lake															****																****	
BerglandBlaney	. Ontonagon				****	. 14	. 12	****	.03	****		****	1.00	****							****		****		.90	. 53		. 73					3
alumet	. Lake		. 45	. 02		T.	. 14			T.		. 11						T.					. 27		. 15	T.	. 90	. 62					
hatham	Ontonagon		.01	****	****	.03	.08	****	30	.00		. 38	.28		****	****	****		. 03	****	****		****	. 28	. 92	.02		. 25			18		1
Detouragle Harbor	St. MarysLake																								100-0								
agle Harbor																											. 78	.06	****		. 00		3
wen rand Marais	Ontonagon Lake do Escanaba Menominee do Lake		. 68			T.	. 18	.01	Ť.	T.		.33						.01							. 01		1. 14	. 20			T.		2
rand Marais	. Lake		. 02		****	***	.01		10	. 04		. 10				****	****	.02 T		****	T		10	.30	.46		1.21	.60			.03	****	1 2
fumboldt	. Escanaba		.43			T.			. 10			.52						T.							T.		. 22						1
ron Mountain	. Menominee		. 10	. 10		. 03	- 40	***				T.	. 40			****		T	****						. 63	20	T.	. 16					1 3
ron River	Lake		1.03	. 40		.20	1.06					. 15	.20			****	****	***					T.	****	T.		1.04	.08					3
shpeming	. Escanaba													***												***	****						
sle Royale	. Lake			****	****		****		****	****	****		****	****	****	****	****									****	****						
aple Ridge	do			. 10		. 12	. 32					. 50	. 32										T	. 08	. 98	. 05		. 37			· ·		2
enominee	dododododododo		. 20		39	. 63	. 08		. 17	.04	**	1.40	****	****				.00				****	.08	.01	1.64		. 16	.01			1		1
ewberry																																	
owerst. Ignace				00				****		****		****					****	* * * *				****	****	.16	. 19			.16				****	2
ault Ste. Marie	. St. Marys		.33	.24		.05	. 25		. 16			.47	. 05		****			T.					. 06	.11	.80	T.	.01	. 28			. 30		
homaston	. Lake		1.28			***	. 12					. 15			****			T	****			****	T.	. 15	. 10	T.	. 82	. 15		***	T.	****	2 2
atersmeet	dodo		.63	.03		. 03	. 18	****	****			. 65	.07		****	***			. 02					. 07	. 42	T.	. 55	. 12					2
Vetmore	. Lance											.21			* * * *	* * * *	4 4 6		T					19	. 90	. 14					T	****	1
hitefish Point Michigan—Lower Peninsula.	do		****	.11	****		, 08	****	.06	****	****	****	. 66	****	****	****	,	****	**	***	****	****					****	. 00	. 02	-	-		
drian	Raisin			. 26	1.65	. 35	T.	.30										. 75						1.50	T.								5
llegan	. Kalamazoo				. 78	. 56	.47		T.									.26		T.				. 27	1.00								2 2
lma lpena	. Lake		****	. 10		. 55 1. 28	.21		. 50			T.	. 89	****				. 15						. 45	. 26	T.	. 15	.03			. 04		4
an Arbor	. Huron			. 74	.27	.34	. 27						T.					T.	. 26					. 12	. 75			. 10					1
rbelaattle Creek	. Kalamazoo			****	1.00	1.05	. 20		.05				T.					.07	. 40	T.				. 28	. 60		T.	.32					2
ay City	. Saginaw					. 25			. 20				. 20					. 15	. 10	. 10				. 10	1.05	****							2
enzonia	Betsie					.46		****	****				T		****	****		. 13		***				, 12	1.02	T.	T.						2
ig Rapids	. Muskegon			T.		1.01	. 12						. 98					. 24	. 01 .					. 03	.32	.02 T.	. 02	.30					3
loomingdale	Lake	. T.				. 35	. 60						. 23			****		. 19		.01				. 18	.50	T.	. 20	, 11	****		****		3
assopolia	St. Joseph			T.	1. 25	. 95	. 80		. 32				1.30					. 20	. 80 .					. 80						***			6
harlevoix	Lake					.90							1.06					. 10					. 05	.59				****					2
harlotte heboygan	. Chebovgan			T.	. 16	. 15	. 05			. 23			1.25		1			. 25						. 10				. 25					2
inton	Raisin			. 11	1.51	. 45	. 13		****										. 50 .					. 64	. 68			T.					4
oldwateroncord	St. Joseph				1.25	.50	. 49		. 83				T.	T.	****			T.	00		****	****	****	. 33	.47		T.	119	****	****		* + x =	4.2
				- 50	- 556	- 49.6	. 64		100																								2

TABLE 2.—Daily precipitation for September, 1910. District No. 4—Continued

															73	ay o		mal.													
Stations.	River basins.	-	_		_	_									D	ay o	mo	nth.		-	-	_	_		-	1					
		1	2	3	4	5	6	7	8		10	11	12	13	14	15	16	17	18	19 2	0 2	22	23	24	25	26	27	28	29	30	31
Michigan—Lower Peninsula—Cout'd.										1										-											
urand	Saginaw. Lake. Rouge. Saginaw. Betsie. Lake. Cheboygan. Saginaw. Grand. do. Raisin. Grand. Au Sable.			. T.	T.	.3	8 T.								0000				T				3	1. 25		T.	. 15				
ast Tawas	Rouge		2 0 5 4	5	3 .10	0 .3	8 .1	4				****	1.00			***	****	. 10	.17	***	** **	2	1			. 13		****	****		****
int	. Saginaw			8	0	7	5 .4	0		07	7		. 04			****	****		, 25 .				0	. 3	. 10		. 08				
ankfort	. Betsie	****	x = 9.5	T		1.2			. 0	8			1. 5		****		****	45	04				6	1.15	- 03	14			***		
ylord	. Cheboygan		. T.		. T.				. 0	8						****	****	1. 14					2.0			. 18				T.	
adwin	Cheboygan Saginaw Granddo Raisin Grand Au Sable Lake Saginaw Lake Pentwater Pigeon Huron Saint Joseph Saint Joseph				9 0	. 1.0	0		T.				. 90	T.				74					. T.	. 90	T	19	T.	****			
and Haven	do			0	4 .0	5 .0	6 .1	5	Ť				. 61	T.	****	****		.39			**		. 1	11	T.	.05		****			****
ADO	. Raisin				34	4 .8	5 .2	0	. 10	0									. 25 .	1			2	.56							
ass Lake	An Sable	*****	****	Т.	. 78	5 .3	8, 8	0	. 10	1 . H	0					****	****	***	. 50	**	** **		3	. 70			T.	****		****	** *
aylingrbor Beach	Lake	** **		3	0 .10	0 .9	8			. 90	0			** *	****				. 10	** **	** **			1.00		****	. 05	****	****		****
rrison	. Saginaw	** ***	,	-		1	5 .5	9					. 68		***	****		.20					13	. 75			.08		. 29	****	****
rt	Pentwater	**		1		1.0	0 .8	2					. 78	****	****	****	****	. 80	.04	** **			. 35	. 40		. 25	. 20		****	****	
yesghland	Pentwater			6	5	4	2 .4	2	. 74	1						.01		T.						1.35							
hlandlsdale	Gaint Joseph	** **			67	7 -1	3 . 6.						T	T				.34 .	44	** **	** **		81			****	19	****			****
lland	Lake	221444	4 5 5 5 5 1	2 2 4 4 4	a 154	6 × 8	1 × (8)	C. a. c.	.00				. 65					.44					. 00	.46		. 10					
well	Saginaw	** <**			10	. 8	5 1. 2		T.				T.	****	****			. 60 .	.31 .11				1.24	.80			. 02	****			
kaon	Manistee	**		T.	. 71	. 6	7 . 78		3	. 10			.91			****		T.	.31	** ***		* * * * *	. 34	. 45	****		. 25	****			
do	St. Clair				T.	.57	.5		T.									***	. 11	****			. 13	1.08		.06					
lamasoo nsing (Agri. Col.)	Grand			01	98	31	1.0		. 40	****			. 10	****		****	***	. 13	. 12				1.02	. 28	·	10	20			****	****
sing (Agri. Col.)	St. Clair Kalamazoo Grand do.	** ***		. 62	2 . 20	.78	.00					****	. 03		****			. 19	. 19				. 48	.75		.03	.27				
eer	Saginaw. Pere Marquette Manistee Lake.										***		1 90		****										****					****	
lington	Manistee	** ***		.00		. 31	. 21		. 31	****	***		, 85	.01				. 45	T.				.00	.05	.07	.13	. 15		****		
kinaw	Lakedo			. 51			. 64	. 15	.00				.75		****			T.					. 10	. 55			. 40		****		
scelona	do					111. 112	E . 194		1 . 1/2		Janas	Acres 6	- 480					- 200									1.				
land	Manistee Saginaw				T.	.11	1 .10			. 10			. 10					.01	т. 1				T.	. 10	T.	T.					
tague	White	** ***								****																					
enci int Clemens	Clinton	** * * * * *		. 39	. 30	. 45	. 70	****	T.	. 30		****	T.	****			***	***	. 93	**	***		20	78	****		18				
int Pleasant	Saginaw				1. 12	. 20								****										1. 14			. 40				
kegon	Sagnaw White. Maumee Clinton Saglnaw Muskegon Lake. Kalamasoo	** ***		. 15		T.	T.		91	****	***	****	. 35					. 40	T				T.	.30	T.	. 10	T.				
Mission	Kalamazoo	** ***		****	.38	. 85	. 12		T.		****	1111	T.	****	****	****	***	. 27	.07	**	* * * * *		.40	.00	****	.02	.06	****	****		
DF	Lake																		***												
way	Cheboygan				10	1.20	.70		****	36	****		T	03	****		***		19		15		07	.40		****	T.				
380	Saginaw			.02	.03	. 54	.02		****			- * * *	.06						.06				.08	1.27			. 16				
skey	Lake		. 10		10	. 00			. 21	****			+ * * *	****				. 12 .	***				. 12		. 10	. 08	. 14				
mouthtiac	Clinton			T. 33	23	- 40	1.25	****	****	****	****	****		****			***	***	23				1.00	1.50	T		25				
t Austint	LakeSt. Clair							* * * * *	8 × × ×	***	****	N 6 6 8 1																			
d City	St. Clair		.01	T.	. 42	. 75	. 05	****	.06	****	****	****	T.	****					. 03		7.00			90	- 1						
nommon	Muskegon			****		.71	.17		. 57				. 62					30					. 25	. 18			.02				
naw	Saginaw			T.	T.	- 43	.05		T.	. 05	****	****	. 15	****				. 05	.08 T				T.	1.00		T.	T.				
naw, W.S	SaginawdoLake			.42	1.	.40	. 10		. 15	****			1.10	****	***		***	10	.08 T	*		****	.00	1, 25	. 10	.39	.40				
oeeph																		T.	. 75 T				. 18	.07	. 02	.03					
dusky	I. Ake			17	05	. 40	18	****		.09							45	Oi .	.02				. 22	. 88	02	.03					***
th Haven	Lake				.70		. 60		. 75	****			. 10					70 .	. 10				. 45	. 20	.00	. 25					
rnville																										+ 8.00					***
rnville	SaginawLake			. 40	, 40	. 90	. 10	****	. 12			. 50			***	***	***	***	. 10				. 20	. 62		.50					
Ar	Saginaw																		***					1.00							
epiberville	Grand			****	. 50	. 82	. 49	****	. 28		****	****	. 15		***	***	***	15 .	. 18							. 01	.18	***	***	***	
Branch	LakeAu Sable	*	****			. 21		****	. 10	****						***	.09						. 20	.77			. 04	T			
dlawn	Au Sable Lake			T.		. 92	. 35		. 12			2	. 25					25 .	10				.40	.30	.05		. 15	. 05 .			
lanti	Add No		****	4.00	. 46	. 15	. 18	****	.01						***		***		.44			****	. 45	. 83	.01		T.		***	***	***
Ohio.	Yaka	1		-			0.0			0.0				**	700	rm.			1	-		1						700			
on Ridge	Maumen	2.00		1.40	. 66	. 14	.71		.07	.01		****	T.	. 28	I.	1.		24	*** ***	T.		T	2.37	. 45	T.	.10	. 12	1.	***	***	***
ling Green	Lake			. 64	.60	. 34	. 07		. 30					. 27				1.	20 T				. 20	. 10	***		. 00 .			***	
rus eland (1)eland (2)	Sandusky	. 10		. 00	****	. 02	. 20		T.	. 10	****		03	. 20	***	***	***	***	Oi T		× -××	****	99	3.00 1 1.45	.00	1	. 15	T	***	T	***
eland (2)	Lake	03		1.44	.73	. 16	.03		T. T.				. 24	.01		***			Т.												
neaut	do	28		1.19	. 12	T.	. 48	T.	100	. 16				. 02	T.				T. 04 . (03	3		****	****	. 64	. 03 .		. 24 .	***			
lay	Maumeedo	1.17	.00	1, 80	. 15	. 10	. 35	.03	. 10	. 18	***		***	. 45	1.	***	***	1.	21		* * * *	****		2.00	. 02		. 19	***		***	***
ont	Sandusky			1. 19	. 94	. 05			T.		****			. 35				. 4	20				1.05	1	. 12		.08		***		
gea	Maumee	. 06		. 88	***	. 65	. 53	. 65	T	T				.04 .				1.	. 15					1. 18		.01	. 20 .		***	***	
m	Lakedo	03	****	.55	1.52	.04	.02		1.	1.			49	.03	***	***						****		1.63	. 11	1.	. 10	***	***	***	***
80n	Maumee	04	****	. 26	1. 15		.00		***				. 86	.08						1	2			3. 43	. 08		. 43 .				
na	Lake	. 69	****	. 20	. 91	T.	.00 .77 T.		. 35 T				. 33	. 82 .		***		1.	28 25 T					. 73	98	T.	. 10 .				
tpelier	Lake				.30	.74			. 34				. 17		***				25 T				. 60	. 57		Tr. I.					
Bremen	do	20	****	. 18		. 35			. 25				***	.30 .	P	***	***		25 T 58 31				- 03	61		***					
h Royalton	Lake	. 20	. 34	.75	T.	.74	****	****	. 85 T.		****		T.	. 68	1.	***	** **		31	9			. 98	. 65	.06	. 63	.76				
valk	do	. 2.12		1.83	.48	.07	.06							. 04 .	***				05	21		****		. 82 1	. 25	1	. 22				
linwa	dodododododoMaumee	. 2.11	****	1. 19	. 18	.04	.00		. 11				. 07	. 05		***	**	7	Γ				T.	2. 02	T. .		. 62 .				***
lusky	Lake	T.	. 12	. 99	. 28	.20	T.		.03					00				01	37				8.6	. 50	***	. 02 . T.	22	***	***		***
do (1)	Sandusky	30		2.68	.70	. 14	. 17		. 16				T.	. 23 .					05 14 .0 04 T.	2			. 08	. 64		T. T.	. 19 .			***	
do (1)do (2)	Maumee	T.	.01	.03	. 16	.30	T.		. 18				. 03	. 03 .				12 .	04 T	70			- 28	35		. 17	06				
er Sandusky	Lake		****	. 12	.23 T. .85 .34 .90	T.	T.	T.	. 20					.00	***		** **		40		****					.70	65			***	***
ery	Lake	63		1.07	.85	. 11	T. .05 .22 .06 .05		. 04		***			. 12					13 T.				.88	. 00			ne				
ngton	Lake	02	T.	. 02	. 34	- 40	. 22	T.	.04	.43		***		. 53 .				200	72				04	. 12	. 02 .	***	35 .				***
	do	0.0	60	. 45	40	98	08				***			22					10								100				

TABLE 2.—Daily precipitation for September, 1910. District No. 4—Continued.

															I	ay	of n	ont	ì.													
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Pennsylvania.		1							1																							
0	Lake	. 10		. 75	. 28	.84		****	. 04				. 01	T.	T.	****			.01				***	T.	. 34	****	. 02	.11	****	****	. 07	
New York.	Lake		127	.42		1.21	. 11							14	. 12			.00	.14 .08 T.			04	m l		. 11	. 57	T.	T.	T.			
ams Centergelica	Genesee					. 03			****	01	****	****	T				****	.00	08	T	61	.09	1.	***	. 55							* * * *
pleton	Lake					1. 25	.20			T.	****								T.	**	. 04	***	***	T.	.30	T.	T.	. 55			****	****
burn	Oamono	46		95	05	20	00		T.	.40				.30	0.532				- 114			50004		100	. 10	T.		. 30				
on	Genesee	. 1. 65		. 90	. 25	.37	1.51		T.	. 62				. 41					T.	T.					. 20			T.				****
e Mountain Lake	Raquette			. 47		. 23	. 15	T.								****			.23 .				.41		. 25		. 63			. 38		
ockport	Lake	104		1.00		. 00		****		. 45	****			. 29		* * * *	****		T.	. 02		***	***	T.	.07	. 03	T.	. 23	****			
ffalo	St. Lawrence			.02	. 13	. 94	. 82		. 25	T.	****	****	0.0	. 13		****	* 1 * *		.08			01	***	1.	. 10	.01	T	.02		* * * *		
ntonpe Vincent						40	99		****	****		****	.00	07	****		****	****	.08	***		.01		****	T. 10	. 1.2	4.	. 10		****	****	****
evers Falls						.30	. 68		****					.44	****	****						***	***	****	. 29	. 28	****	.40				
asv	do													no					0.0			PER I			1	CES .						
nnom 020	do			.44	T.	. 63	1.17			.01				.06		****			.04 .			. 05 .	***			T.			. 02			
B	do			.80	T.	. 80	1.90			. 50			****	.40					T					T.	T.	. 15	T.	T.				
yettevillebriels	Oswego	40		. 16	T.	. 12	1.42			. 12	· · · ·	***		. 32					.04 T05 .03 .01				09	****	. 20	. 35		. 30	. 26			
briels	Lakedo			10	. 22	0.40	10	. 02	****	15	1.	****	****	.02					01		****	09	. 03	****		. 13	****	.03				
mlock Lake		* * * * *		37		15	3. 24	****	****	35	****			61					.05			. 00	***	****	17	T.	****	. 02				
int	do	. 45	****	.46	.31	-10	04		- 10					. 15											- 36	-						
aca	Oswego	. T.		1.00	. 28	. 05	.30		. 07	T.				. 17					.01 .						. 35	1.90	.01	. 50				
ene Valley	Au Sable	23		. 53		1.20	.48	. 04	. 03	. 02	.04			. 12					.01 .03 T. .04			. 09 .			T.	. 10	. 13	. 08	. 10			
ng Ferry	Oswego	35		. 53	. 46	. 06	. 80		. 25	.02 .03 .14 .09			****	. 22				. 2				***	***		. 19	. 16	.03	. 16	.06		****	
ke George	Lake Au Sable, W. Br Genesce	31		. 56	. 11	. 12	. 67			.06			****	. 83					T		***	. 02 .			. 36	. 12	. 20	. 27	1.02			
ke Placid Club	Au Sable, W. Br			. 25	.08	1.43	. 40	. 05		.03			****	. 08					.04 .08 .04	F.	***	.08	***	T.	.00	T.	· · · ·	.09	. 20		****	
Roy	Genesee	98		. 53	.16	. 15	1.09	****	. 20 T	. 14			****	10.		****		****	.08 .			***	***	. 03	93	02	01	91		****	***	****
export	Lakedo	55		. 18	.00	33	07			.00			****	T				****	.04			23		. 00	. 23 T.	18	.01	. 18				****
ndonville	do			. 40			.01			****		****	****	*		****						-	***		**							
ira	St. Lawrence	3		.27		. 39	.07							. 13					.06		T				T.	. 14		.08	.07			
hasane	Lake	. 1. 14		. 48		. 66	. 33	.06		. 07				.04	.01	T.		****	. 03	Г.		.32	T.		.01	. 21	.01	. 18	. 17		****	
orth Lake													****	****	****				.00						****							
densburg	St. Lawrence			. 29	T.	1.20	. 38			. 10				T.				***	.00		***	Г.			.05	. 16			T.	***	****	
i Forge	Lake	49	. 70	30	. 30	14	97	***	0.0	T. 10	****	****	****	. 19	****	****	.01	× × × ×	.06 .		***	. 10	***	.01	. 10	. 23		. 20	. 15			****
wego	do	84	****	65	20	03		****	. 00	82		****	06	20		****			.08 .08 .T.			***	***	16	08			15	. 24	****	****	
lermo	do	. 10		. 10	.06	. 05		. 10		. 02		. 02	.00		. 10			.01							. 03	. 08	. 05					
ry City	do	28		. 54	.39	.16	.36			.07				. 43					T	02 .					.31	. 05	. 02	.39	. 10	****		
iladelphia	St. Lawrence			. 30	. 05	. 94	. 80			T.				.17					.08			. 02 .			. 17	. 23		T.	. 10			
ttsburg	Lake St. Lawrence			****						****									.06 .08 .01				***									
tsdam	St. Lawrence	15			.31		1. 18	.11	***	.01		****		. 03				***	.06	02 .	***	***	.02 .		P	. 25	.01	****	.06	****		****
quette Lake	Genesee	1.23		. 50	03	. 43	. 20	. 08	99	. 10	****	****		21		****	****	***	. 05		***	. 14 .		01	10	. Ut		. 15	. 39			****
cnester	Oswago	. 1. 00		. 93	. 00	1.02	. 30		. 00					. 00					.01					.01	. 10			. 1.0				
mulus	do	1.34	****	.82	.07	. 33	1.00			.38	****			. 56					.01	04				.02	. 17	.02		.09	T.			
aneateles	do	60	. 05	.40	. 20	. 60	1.30	. 10		. 32				.50					. 07						. 03	. 45		. 20	. 19			
acuse	do	26		. 29	. 01	.41	1.21		. 16	T.		****		. 44			****		T		***				. 27	.08		. 17				
onderoga	Lake	24				. 12	. 90							. 50						**	***		***		****			. 30	1.25		****	
ideau	do					09			* * * *	****				***					т			00				17	****	10	. 15		****	
pper Lake	Raquette	1 20	****	. 33	91	47	.36		***	. 10		****		. 10				***	T	* * *	***	.08		T	· ' .	T	T	T. 12	. 10			
nakena	LakeOswegatchie	1. 35		26	. 01	1.05	49	* * * *	* * * *	. 10	****			.05				***	05	**			T.	**	.04	.21		.02	.07			****
ertown	Lake	. 16		. 20	.01	. 05	.96							. 15					. 08			02			12	. 18		.02				
lgewood	Oswego	01		. 66	. 18	.08	.20			. 13				. 43	.01				.05	03 .					.41	. 53	. 20	.30	. U.			
tfield	Lake	61		1.02	.41	. 61	. 69		. 03					. 06				***	T	r. .	***			T.	. 12	. 11		. 13				
ingstown	do			. 26 .		1.20	. 13							. 14											. 29			. 64			T.	
Vermont.						_													.01							-		00				
rlington	Lake			. 20		1. 19	. 60			. 14	***			. 07	***	***		***	. 01	**	. 05 .	00 .		. 01	. 12	.02	***	. 29				
nwail	dodododo	. 1. 10		. 31 .	10	1.00	. 80	04		. 10	01		****	. 50		***		***	00			20 .		***	. 05			T.				
rthfield	do	11		92	. 10	. 10	40	.01		T	.01	****	****	39	***		***	***	T 7		01	03	***	***	.06	. 08		1.11				***
land	do		****	. 30		. 10	. 100	, 03	****	*.				. 04				***			· OI ·			***	.00				. 00			***
9	dododo	.51	****	5.9	***	121	. 05			. 12	***		****	1. 15	. 07				т	**		05		***	. 17	. 121	. 04	.45	. 56			
			-2.5		200																	-		-		-					-	-

Table 3.—Maximum and minimum temperatures at selected stations, September, 1910. District No. 4, Lake Region.

	1			LABL		onsin.					1	,				Michig	an, Ur	oper Pe	ninsul	la.				Michig	an, Lo	wer Pe	ninsul	a.
		Duluth, Minn.		Florence.		Green Bay.		Milwaukee.		Chicago, III.		Fort Wayne, Ind		Escanaba.		Ewen.		Houghton.		Marquette.		Sault Ste. Marie		Alpena.		Battle Creek.		Cadillac.
Date.	Max.	Min.	Max.	Min.	Max	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max	Min.	Max.	Min.	Max.	Min.	Max.	Min
1 2 3 4	66 65	51 51 50 51 51 54	67 65 65 69	35 38 51 56	67 73 64 66 61	51 50 53 49 58	63 67 72 63 76	53 53 58 56 60	68 72 82 70 81	63 61 66 66 68	71 80 87 84 88	58 46 65 68 68	65 64 62 64 61	46 52 54 50 55	71 68 68 71 65	31 49 40 37 50	68 59 66 71 62	45 52 53 50 56	65 64 59 65 59	46 54 52 52 52 52	65 64 58 66 62	45 40 49 45 48	66 63 68 64 59	44 41 49 42 52	70 77 81 72 81	54 45 60 60 64		
6 7 8 0	75	56 55 40 35 42	68 78 70 63 68	50 44 52 37 38	70 83 78 65 67	57 53 49 43 45	77 73 81 61 68	63 61 58 49 48	81 81 83 68 65	68 68 68 56 54	83 84 84 76 71	68 57 67 58 43	70 68 74 65 64	56 55 50 43 42	66 82 76 64 69	48 40 44 35 38	65 86 75 60 70	58 51 50 46 44	70 79 73 65 70	56 53 50 43 46	66 74 68 56 68	54 54 54 42 43	78 70 82 61 72	56 59 54 45 43	78 82 79 74 79	67 51 64 50 42	69 80 76 63 66	62 53 57 43 43
	57 59 64 73 71	41 34 45 46 51	62 55 64 70 72	43 38 39 41 40	77 57 67 72 74	51 47 47 47 47 50	72 72 58 66 72	53 52 53 50 52	80 72 60 64 67	56 58 57 58 56	81 82 73 70 75	42 42 46 52 43	64 52 59 73 67	51 41 41 43 47	60 61 64 65 73	40 42 45 46 38	59 54 62 68 72	44 42 43 52 50	65 47 65 73 77	46 39 42 48 53	69 55 61 65 75	45 42 39 41 42	71 60 57 70 65	46 44 41 40 43	75 74 68 70 75	43 60 47 44 42	72 35 62 69 76	50 45 39 43 44
6 7 8 9	65 78 56 73 77	54 86 44 42 82	73 80 72 73 75	46 40 42 35 45	75 75 65 69 77	53 56 53 51 58	74 70 68 62 71	54 60 55 55 57	74 73 69 63 71	60 61 61 59 56	77 80 80 77 79	44 45 59 62 60	66 62 61 69	52 60 45 46 52	72 81 70 76 75	35 60 43 38 40	77 72 51 70 72	53 51 40 45 51	76 76 53 74 69	53 53 41 43 53	73 60 61 65 63	48 55 42 41 52	78 72 59 61 75	49 53 48 51 51	75 75 75 72 75	44 50 58 53 53	70 68 59 68 75	49 55 53 42 51
	54 57 51 51 53	45 47 40 43 44	64 65 65 45	36 34 40 38	64 69 61 55 59	50 47 52 49 48	67 66 65 67 61	57 57 45 54 53	67 71 67 69 59	61 60 63 57 53	81 75 63 75 68	42 46 50 61 56	58 60 57 51 45	44 44 46 46 45	65 64 51 47 56	30 40 44 34 42	55 66 53 49 56	42 42 42 42 42	54 62 58 47 54	37 40 43 44 45	53 60 56 49 53	41 38 42 40 43	58 59 59 54	44 45 48 49 45	74 71 61 71	48 41 52 54	67 68 59 63 55	46 38 52 46 46
	51 61 64 74 78	45 46 45 46 52	59 60 70 74 75	41 45 46 40 50	59 59 68 73 78	50 48 44 48 56	64 59 64 72 77	53 48 48 48 52 55	69 66 65 70 81	57 49 52 56 58	71 70 71 73 79	48 55 44 41 43	57 64 62 63 60	52 49 43 47 57	52 55 72 75 76	43 43 39 40 50	52 55 68 80 72	49 49 45 47 56	54 57 63 75 76	49 48 47 57 58	58 57 68 71 70	42 50 47 41 48	56 60 68 68 76	43 49 46 43 52	68 65 67 71 75	58 50 48 43 48	58 59 68 71 73	50 48 45 42 51
ne	64.5	46.8	67.3%	42.16	68.0	50.4	68.3	54.4	70.9	59, 5	76.9	52.7	63.1	48.5	67.0	41.5	64.8	47.7	64.8	48.1	63.3	45. 1	65. 8	47.2	73.4	51.5	66.7	47.7
	3	dichig	an, Lo	wer Pe	ninsul	a.				Ol	ilo.									New	York.					Vern	nont.	
		Detroit.		Muskegon.	1	Saginaw, W. S.		Cleveland.		Mma.		Sandusky.		Toledo.		Erie, Pa.		Buffalo.		Canton.		Rochester.		Syracuse.		The state of the s	V. contents	Northbeid.
Date.	Max.	Min.	Max.	Min.		Min.		Min.	Max.		Max.	L	Max.			Ī			Max.	Min.		1	Max.		Max.	Min.	Max.	Min.
	68 76 81 69 84	54 51 63 60 68	69 72 72 72 68 74	53 41 54 52 62	68 79 76 67 78	48 44 57 57 61	65 76 80 77 88	58 57 65 67 70	68 71 78 83 88	57 60 62 51 69	66 73 83 78 88	61 58 64 67 69	65 75 82 75 85	56 50 64 67 68	65 69 76 70 86	58 54 64 65 70	70 72 71 72 78	58 51 62 60 66	68 68 69 72 62	45 37 48 55 51	67 68 76 71 77	57 57 57 61 63	70 72 73 72 80	56 50 61 63 62	68 66 64 73 64	51 46 51 60 54	74 69 62 75 68	40 39 42 53 52
	81 77 78 65 66	63 58 55 51 48	72 79 79 60 65	62 53 65 53 40	81 82 84 66 71	65 52 59 48 39	79 71 79 70 63	70 64 63 57 48	80 78 80 73 73	68 58 66 43 53	82 73 82 73 66	70 62 65 59 49	82 78 80 71 67	68 61 65 55 47	78 72 77 66 63	69 62 59 55 48	74 73 76 69 67	66 60 62 52 49	78 69 76 65 67	57 48 44 40 37	80 73 78 66 68	67 61 57 50 45	84 70 74 68 68	69 61 58 53 48	73 69 74 66 66	59 60 56 46 38	63 69 74 70 65	59 59 56 48 34
	83 67 64	56 54 50 49 54	75 65 63 64 87	45 45 45 42 45	78 73 61 72 75	43 57 44 37 42	71 84 63 61 67	51 60 58 53 46	74 80 71 63 69	55 69 55 50 42	74 86 66 64 79	56 63 58 53 50	77 83 67 65 75	53 58 53 51 52	69 83 67 60 67	53 61 56 51 48	75 79 63 63 67	50 63 53 49 52	74 78 66 65 68	40 54 46 36 44	76 82 66 62 68	50 61 52 47 44	69 80 70 61 67	54 62 51 46 45	72 75 69 60 69	43 53 47 41 39	69 75 69 60 66	36 43 53 58 32
	77 70 73	55 57 56 57 57 52	73 65 70 67 70	49 54 57 50 51	80 77 63 62 77	46 47 52 51 49	67 77 68 72 71	50 53 61 62 64	72 70 70 75 70	44 48 57 63 63	70 80 71 73 74	52 53 60 64 63	71 80 75 74 78	55 55 59 59 58	67 73 66 66 71	50 53 60 58 60	71 72 66 67 67	50 53 54 52 54	71 75 60 61 71	38 42 42 36 43	70 75 62 65 73	47 48 55 52 54	70 72 64 68 73	47 48 51 50 54	69 70 61 54 68	43 41 44 37 47	68 69 68 53 68	34 34 40 40 45
	67 62 71	51 50 56 59 54	70 71 65 62 60	51 41 56 58 54	74 71 68 70 63	48 41 50 56 52	69 66 73 72 67	58 53 58 62 61	76 67 71 70 70	55 56 53 63 58	73 65 72 74 66	62 52 57 63 60	77 65 66 76 66	57 48 58 62 56	68 60 73 73 68	56 47 58 82 60	68 62 70 70 68	52 45 52 54 58	60 56 68 63 74	42 31 34 48 60	68 56 71 68 74	53 47 46 55 59	66 58 71 71 76	49 41 44 55 50	64 56 62 55 70	47 38 36 46 52	66 54 63 59 68	46 32 30 50 48
	64 66 68 74	53 54 49 52 54	63 61 62 66 70	44 54 50 42 50	65 62 70 72 76	49 53 44 • 44 49	68 70 63 65 76	56 55 50 51	74 70 58 70 73	57 56 44 45 48	69 69 64 67 76	62 56 53 51 52	67 68 70 67 76	55 51 48 52 54	62 71 63 67 73	58 58 54 46 54	89 69 64 66 70	53 54 50 50 56	60 72 64 65 72	42 42 42 34 42	59 74 63 68 76	55 54 50 47 48	65 78 61 65 72	56 56 52 47 51	66 66 63 61 68	50 45 54 42 42	64 61 64 63 68	46 43 53 36 34
ns	71.5	55. 1	68.0	50.6	72.0	49.5	71.3	58.0	72.8	55.6	72.9	58.8	73.4	56.5	60.6	56.9	69.3	54.7	67.9	43.3	70.0	53.3	70.3	53.3	66.0	46.9	66, 1	43.5

Climatological Data for September, 1910. DISTRICT No. 5, UPPER MISSISSIPPI VALLEY.

GEORGE M. CHAPPEL, District Editor.

GENERAL SUMMARY.

September, 1910, was a very pleasant month over the upper Mississippi Valley, and was exceptionally favorable for all kinds of outdoor work, and over the larger part of the district the conditions were favorable for ripening and securing the late crops. The departures from the normal temperature, precipitation, and sunshine were slight. The mean temperature for the district was only 0.5° below, and the average rainfall 0.21 inch above the normal.

While there were some warm days and a few cool nights, there were not as many sudden changes in temperature as usual during September, and those that did occur were not severe. The periods of comparatively low temperature were of short duration and caused little or no damage to vegetation. A cool wave spread over the district between the 9th and 12th, which caused light frost on low land as far south as Iowa, central Illinois, and Indiana, and heavy to killing frost with freezing temperature at many stations over the northern sections. Another cool spell occurred on the 26-28th, during which freezing temperatures again occurred over parts of North Dakota, Minnesota, and Wisconsin, with light to heavy frost in the central portions of the district, but as vegetation was so nearly matured no material damage was done, except to tender vines and garden truck. The 7th was generally the hottest day, but the temperatures were high also on the 4th, 17th, and 18th and in the northwestern section on the 27th to 30th. Maximum temperatures of 90° or above were recorded in all sections, except Missouri, where the highest was 88° on the 8th.

The rainfall was generally abundant, but there was quite a variation in the distribution, both geographically and as to time. Over the southern and middle sections, however, showers were frequent and well distributed throughout the month and copious falls occurred in all districts during the first and third decades, but over the northern States the showers were light and scattered during the second decade.

TEMPERATURE.

The average temperature was slightly below the normal in all of the States in the district, except Minnesota, where there was an excess of 0.3° . The greatest deficiency was -2.4° in South Dakota, and the monthly means by States ranged from 54.9° for North Dakota to 67.0° for Missouri. The mean temperature for the district, as shown by the reports of 292 stations, was 61.3° , 0.5° below the normal. The highest monthly mean was 74.2° at Cobden, Ill., and the lowest, 51.3° at Langdon, N. Dak. The highest temperature recorded was 97° at Clear Lake, Iowa, on the 7th, and the lowest was 20° at Crosby, N. Dak., on the 26th, and at Fram, Minn., on the 12th.

PRECIPITATION.

As stated above the rainfall was generally abundant and fairly well distributed as to time during the first and third decades; the largest amounts occurred between the 2d and 6th and the 22d and 26th, and excessive amounts were recorded on one or more of those days at several stations in all except the northwest sections. The rainfall was light during the second decade, especially in the northern portions of the district. Geographically, the rainfall was unevenly distributed. In North Dakota the monthly amounts ranged from 0.23 inch at Edmore to 4.48 inches at Walhalla; in Minnesota, from 0.81 inch at Beardsley to 4.43 inches at Grand Meadow; in Wisconsin, from 1.16 inch at Delevan to 5.88 inches at Hillsboro; in Iowa, from 1.18 inch at Elma to 6.90 inches at Toledo; in

Missouri, from 2.76 inches at Gorin to 11.41 inches at Mexico; in Illinois, from 0.93 inch at Cairo to 9.21 inches at Mount Vernon. In Indiana, the distribution was more uniform; the least being 3.63 inches at Laporte and the greatest, 4.45 inches at Plymouth. The average precipitation for the district, as shown by the reports of 308 stations, was 3.29 inches, which is 0.21 inch above the normal, there being an excess in all but the Minnesota, South Dakota, and Wisconsin sections. The greatest amount, 11.41 inches, occurred at Mexico, Mo., and the least, 0.23 inch at Edmore, N. Dak. The greatest amount in 24 hours, 3.63 inches, occurred at Walhalla, N. Dak. Measurable precipitation occurred on an average of 8 days. There was no snowfall reported from any part of the district.

SUNSHINE AND CLOUDINESS.

The average number of clear days was 14; partly cloudy, 7; cloudy, 9. The duration of sunshine was near or slightly below the normal, except over northeastern Missouri, where there was a deficiency of about 10 per cent.

WIND.

Southwest winds prevailed. The highest velocity reported was 42 miles per hour from the north at Devils Lake, N. Dak., on the 22d.

MISCELLANEOUS.

The rains were of great benefit in reviving pasturage and aftermath in meadows, replenishing shallow wells and the surface water supply, softening the ground after the long summer drought for fall plowing, and starting the growth of winter grains in the southern districts. In northeastern Missouri and central and northern Illinois, however, plowing was delayed and the ripening of corn retarded on account of too much rain.

The only destructive windstorm reported passed over Iroquois County, Ill., on the 12th. It had some of the characteristics of a tornado and destroyed considerable property, but no loss of life was reported, although a number of persons sustained

slight injuries.

More than the usual number of thunderstorms occurred during September, but the only storm, of which report has been received as having caused damage by lightning, occurred in Dubuque County, Iowa, on the evening of the 11th. The barns and outbuildings on the farm of Benjamin Johonnes, 5 miles northwest of Dyersville, were burned, together with their contents, including four valuable horses, grain, hay, machinery, and some poultry and hogs. The loss is estimated to have been over \$5,000. During this storm considerable stock was killed also near Luxemburg, in the same county, and creeks and meadows were flooded by rain, which fell in torrents for two hours.

RIVERS.

Although the stage of all rivers was somewhat higher than during August, they were still much below the normal.

The rivers throughout the Dubuque district averaged nearly a foot higher than during August, except in the Mississippi from La Crosse to St. Paul, where the rise was much less marked. At Dubuque the maximum stage was 2.0 feet on the 13th, and the minimum, 0.8 foot, on the 5th, 6th, and 7th. Navigation remained suspended throughout the month, owing to the low water, making three months continuously that packets have been unable to run on the upper Mississippi.—J. H. Spencer, Local Forecaster.

Although the Mississippi was higher than during August, the average stages in the Davenport district were lower than in any

other September since 1898. Through traffic over the Le Claire Rapids remains suspended.—J. M. Sherier, Local Forecaster.

The work of surveying the Des Moines River was continued under the supervision of Mr. A. O. Rowse, Assistant Engineer, U. S. Army. During the month topography on both sides of the river covering area subject to overflow, soundings and prob-ings of the river bottom, and levels to determine water slope

were taken for a distance of 29 miles, completing the field work to a point 115 miles below Des Moines, and 18 miles of topography and soundings were platted.

The city council of Eldora, Iowa, has granted a franchise to the Park Dam Company, which will construct a cement dam on the Iowa River at that place for the purpose of developing water power. A large power house will be erected and a new electric system will be installed.

Table 1.—Climatological data for September, 1910. District No. 5, Upper Mississippi Valley.

			L, y	Tem	perature	e, in d	egree	Fahr	renbe	it.	Prec	ripitatio	n, in i	nches.	day		Sky		Hon	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of	Number of part-	Number of	Prevailing wind	Observers.
North Dakota.	Cass	954	12	57.0	0.0	85	20	25	12	48	1.22	- 0.51	0.38	0.0	6	17	6	7	nw.	C. E. Wood.
ottineau	Bottineau	1, 638		52.4 55.9	- 4.7 + 1.0	88 83	16 29	24 22 20	12 26 27 26 26 26	55 51	1.82	+ 0.29 + 1.86	0.82 2.45	0.0	3	13	3	14	se. nw.	J. A. Kemp. G. Bennett.
rosby	Williams		. 3	53.4 54.4		91	18	20 32	26	41 35	1.21		. 0.65	0.0	6	19 10	5 10	6	8.	H. C. Kaschau. U. S. Weather Burea
Oonnybrook	Ramsey	1,760	10	54.0	- 1.2 - 1.6	80 93	28 16	27	12	47=	2.62 1.24	+ 1.23	0, 62	0.0	3	10	10	10	s. nw.	C. J. De Vore.
unseith	Rolette		. 12	52.8 54.0	- 2.2	93 86	16	24	26	44	1.06	- 0.06 - 0.61	0.60	0.0	3	18 12	11	10	w.	L. H. Trowbridge.
dmore	Ramsey Sargent Walsh	1,524	15	59.8	+ 1.6	82 89	20 20	29 29	12	44	0.23	+ 0.73	0.23	0.0	6	11	8	ni	n. nw.	H. R. Aslakson. A. Maltby.
rafton	Walsh McHenry	827	12	54.0	******	89	16	90	91	47	0.78	*******	0.42	0.0	3	16	9	5	nw.	H. La Moure. W. A. Christiansen.
annah	Cavalier	1,568	4	52.2	********	81	201	22		49	3.16		2.44	0.0	4	16	5	9	nw.	J. Moffatt.
ansboro	Towner	901	4	53.4 59.0	*******	81 82 81	16	25	26	42	2.56	******	1.65 2.13	0.0	5	19 15	7	8	nw.	Geo. Dale. M. H. Norman.
akota	Nelson	1.519	3	53. 2	*******	80 76	20 28 28	25	12	45	1.90		1.26	0.0	4	12	14	4	nw.	C. R. Pettes.
angdon	Cavalier	1, 615	14	51.3 55.2	+ 0.1	76 85	28	28 22 25 29 25 29 28 22	26 26 12 12 12 12 12 12	37 47	3.73	+ 1.90	1.89	0.0	3	15	5	10	W.	J. Woolner. Reuben Gray.
shon	Ransom	1,091	5	56.8		90	17	22	12	51	2.64		0.98	0.0	7	14	6	10	nw.	H. K. Adams.
anfred	Ward	. 1,605	15	53.8 55.0	+ 0.7	95 81	16	24 27	26 12	63	0.80 2.16	- 0.73	0.45 2.16	0.0	1	9	9	12	nw. sw.	N. P. Swenson. P. B. Anderson.
ayville	Traill	975	14											*****			2	9		N. C. McDonald
inotinto	Walsh	820	16	55.4 54.9	- 2.2 - 1.2	92 84	16 20	26 28	26 12	46	2.66	-0.65 + 0.50	0.39	0.0	5	19 16	6	8	W.	Wm. J. Farris. S. S. Marsh. W. E. Williams.
riska	Walsh	1,270	6	57.6 56.0	******	82 81	201	28 26 30	12 12	40	1.26		0.52 2.25	0.0	7 5	4	24	2	nw.	W. E. Williams.
embina	Pembina	789	11	52.0	- 1.7	82	28 15	- 30	124	40	2.88 2.96	+ 0.66	1.24	0.0	4	15	3	12	w.	A. Heyward. C. W. Shumaker.
ower	Richland	1,020	17	56.5 55.0	- 1.7	88 91	20 16	25 22	12	48	1.78	+0.02	0.75	0.0	4 2	13 24	7 2	10	nw.	J. A. Power. C. H. Butts.
owner	do			56.4		87	16	29	9	43	1.20	*******	0.63	0.0	3	15	8	6	w.	Belle Bagley.
niversityahpeton	Richland	830 962	18	55.2	- 0.2	83	4	28	12	44	3. 14	+ 1.04	2.50	0.0	5	18	10	2	nw.	W. R. Holgate. E. G. Burch.
alhalla	Pembina	966	5			*****					4.48		3, 63	0.0	2				*****	C. H. Lee. C. W. Clark.
esthope	do	1,471	16	53.4	- 0.9	88	16	25	12	47	1.80	+ 0.07	1.03	0.0	5	13	9	8	nw.	M. A. Ostby.
Minnesota.			-	81 9									1.30	0.0		13		6	se.	Edward Carey.
exandria	Freeborn Douglas	1, 229	20 16	61.8 57.4	$+0.8 \\ -0.9$	90 89	17	37	10† 27	43	2.25 1.98	-1.18 -0.23	1.06	0.0	8	11	11	15	nw.	P. O. Unumb.
ngus	Polk	870	8	55, 8 54, 2		80 82	41	24 24	12 12	46 45	2.44		1.18	0.0	5	10	12 14	11 6	n. sw.	John Nadvornik. Jens Nelson.
audette	Beltrami	. 1,084	1	55.2		79	4 7	25	12	39	1.58	*******	0.59	0.0	5 4	14	4 8	12	nw.	Franz W. Schmidt.
	Bigstone		17 8	60.3	+ 0.9	91	7	30	9	47	0.81	- 1.21	0.30	0.0	4	13	8	9	nw.	Roy A. Smith. Elizabeth S. Cooper.
rd Island	Renville	. 1,039	20	61.8	+ 1.0	91	7	31	9			- 1.82	0.57	0.0	6	14	5	11	80.	Dr. F. L. Puffer.
aledonia	Houston	1,179	17	59.4 56.0	+ 1.4	· 81	17	43 25	9† 12		3.13	- 1.10	0.73	0.0	7	15 13	1 3	14	8W. 80.	W. D. Belden. J. T. Neisess.
ss Lake	Cass	. 1,300	4	******	******						3.45		0.70	0.0	8				*****	C. W. Burns.
ookston	Stearns	. 863	17 20	60.8 56.1	+ 0.2	88	4	26 31	12	38		-0.79 + 0.59	1.07	0.0	5 4	19 15	3	14	nw.	Fridolin Tembreul. A. G. Anderson.
etroit	Becker	. 1,364	14	54.5 61.3	+2.2 + 0.5	85 84	17	24 34	12 12 9			+ 0.19 - 0.24	0.75	0.0	8	20 14	2	8	80.	George W. Peoples.
ribault	Rice	. 1.003	23 13	60.2	- 0.6	87	17	36	9	40	1.62	- 2.21	1.02	0.0	4 7	15	8 5	10	8.	George W. Peoples. W. F. Wherland. Dr. A. R. T. Wylle. D. F. Akin.
armington	DakotaOttertail	902	22 18	63.0 58.2	+ 2.7	90 81	17 7†	35 32	9	38		- 1.84 + 0.62	0.86	0.0	6	10 12	6 10	14	s. se.	
ort Ripley	Crow Wing	. 1. 136	4	57.8	******	91	7 7	20	9	49	2.60	+ 0.42	1.08	0.0	6	10	3	17	ne.	J. J. Tucker. O. N. Hem. A. W. Clark.
eston	Polk	1,289	1	57.0 54.6	******	81 78	41	26 20	12	49	1.74 2.51		0.36	0.0	3	12 6b	14 19b	4 3b	nw.	A. W. Clark.
encceand Meadow	Marshall McLeod Mower	1,000	14	61.6	+ 2.1 + 0.9	91	17	30 34	27	47	1.22	- 2.62	0.82	0.0	3 6	14	12	4 7	SW.	C. G. Selvig. C. F. Greening.
allock	Kittson	815	23 11	60, 8 55, 4	+ 0.9	89	17	22	12	43	3. 20	+ 1.13 + 0.27	2.74 2.50	6.0	3	13 17	3	10	n.	D. A. Robertson.
maldan	Norman	1.050	4	56.0 . 58.3 .	******	82	4†	25	12 10		1.82		0.53	0.0	9	15	12	10	8. 8W.	Aaron G. Holstrom. W. R. Newman.
ternational Falls	Koochiching	1, 112	2	55.6	******	80	7	26	12	41	2.47	*******	0.90	0.0	7	12	10	7	sw.	Rees Roe.
elliherke Crystal	BeltramiBlue Earth		3	56.0°.		80	10† 7†	34			2.28		0.89	0.0	6 7	17 4	31		80. 8.	A. Gilmour. W. P. Cobb.
ech Lake Dam	Cass	1,301	22	55.4	0.0	84 83	7 6	26 23 34 28 22	12 12	41	3.91	+ 1.00	1.11	0.0	8	18	22		se.	Hans Olson. O. C. Olson
ng Prairie	Koochiching Todd	1,299	18	58.0	- 0.4	84	18†	31	9	43	1.75	- 0.87	0.98 1.20	0.0	2	16	5	9	80.	R. M. Sheets.
nd (2)	Lyon . Blue Earth	1.175	18	60.0	- 0.3	88	71	31		42	1.54	- 1.08 - 0.80	0.40 1.12	0.0		13			SW.	J. W. Rouse. Sadie H. Blake.
pleplain	Hennepin	1,023	18		*******	*****													*****	G. W. Richards.
laca	Millelacs Chippewa	1,072	13 16	57.6 59.0	+ 0.4	89 90	71	27 31			2.06 - 1.67 -	- 1.38 - 0.46	1.08 0.88	0.0	6	8b	15 ^b		nw.	C. H. Foss. O. K. Opjorden.
nneapolis	Hennepin	918	19	61.5	- 0.9	88	17		12	31	2.58 -	- 1.08	1.19	0.0	6	10	10	10	8.	U. S. Weather Bureau
orhead	Chippewa Clay		20 29		- 0.9 + 1.1	91 83	7 21	39 32 27 28 31					0.85	0.0	5	12 ^b 12	5b	7	86.	Lloyd G. Moyer. U. S. Weather Bureau.
ra	Kanabec		5	58.0		91	7	28	10	47	1.97 .		1.29	0.0	6	19 22	5 3	6	w. nw.	Hans Peterson. D. T. Wheaton.
w London 1	Stevens Kandiyohi	1,215	25 16	59.4	- 1.3 - 1.1	89 82	7 7	30	27	38	0.90 -		0.56	0.0	3	14	10	6	sw.	Harold Swenson.
w Richland	Waseca	1, 180	16	62.4	+ 0.4	90 91	17	36	9	36	2.39 .		1.51	0.0	8	15 15	8	7	SW.	N. O. Tyrholm.
kis	Brown	791	30	58.2	- 0.9	88	7 7	30	9	40	1.80		0.54	0.0	5	13	7	10	nw.	J. B. Johnson.
rk Rapids	Hubbard	1, 426 1, 251	20	55.7	- 0.1	87	7	30	12	43	3. 21 - 4. 15 -		0.87 2.00	0.0	8 5	12 9	15		nw. e.	J. B. Johnson. Dr. P. A. Walling. Neil McKay. Arthur L. Mampel. A. C. Goddard. Louis Bach.
kegama Falla	Crow Wing	1,280	23 23 2	54.9	+ 2.2 + 0.8	85	7	26	12	43 3	3.93	- 1.01	1.40	0.0	8	10	11	9	sw.	Arthur L. Mampel.
d Lake	Beltrami	1, 152	2 14	57.1	******	78	4†	29	12	40	1.41 -		0.50	0.0	9	8	16		n. se.	Louis Bach.
dwood Falls 1	Redwood	1,050	3	62.4		92	7	33	9	42	0.99 -	- 0.77	0.34	0.0	5	16		8	nw.	N. B. Anderson. John Deschneau.
chester	Wabasha Olmsted	681 991	15 .	58.9		89	19	34	10		2.08 - 1.98 .		0.58	0.0		13 10			se.	S. R. Case.
seau I	Roseau	1,040	3	55.4		80	4	23	12	46	1.95 .		0.75	0.0	5	16	8	6	nw.	A. Waag. S. W. Gleason.
Cloud.	Winona	1.020	19 32	60. 6	- 1.0 + 1.4	91	17 17	23 37 34	9 3	38 2	2.63 - 2.53 -		1.00	0.0	6	17	5	10	6.	Jos. H. Capser.
Pani	Ramsey	837	39 17	61.8	+ 1.5		17	40	10		1.77 -	- 1.65	0.85	0.0		15	8		8.	U. S. Weather Bureau. Chas. C. Cavanaugh.
Peter	N TOO LIGHT	825	li .	*****	0.5	88	7	90	10	10 3		1 10	1.70	0.0	9	9	8	13	sw.	U. S. Engineer Corps.
l'eter	Nicollet	1, 234	17	56.2	- 0.5	00	7	30	12	40 3	3.75	- 1.12			7			5 15		Walter J. Marclaey.

TABLE 1.—Climatological data for September, 1910. District No. 5—Continued.

			ya.	Tem	perature	, in d	egree	e Fal	hrenh	eit.	Pre	cipitatio	n, in i				Sky		op.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of ratny	Number of	Number of part-	Number of cloudy days.	Prevailing wind	Observers.
Minnesota—Cont'd. Taylors Falls	Chisago	759		60.7		89	18	32	9 12	40	1.68 3.24			0.0		11 20	5 1	14	n. sw.	Mpis. Gen. Elec. Co. John H. Sawyer.
Warroad	. Dodge	. 1, 232	1 1	62.1	*******		17	22 35	9	48	2.90	*******	1 40	0.0			12	6	86.	H. H. Orcutt.
Willow River	. Cottonwood	1,336	12	61.6		88	79	34	9	42	3.58	*******	1.37	0.0		12	12	6	8.	J. A. Brandt. Taber C. Richmond.
Winnebago	Faribault	. 1,300	22	61.0 57.5	+ 1.2	90 82 87	17	36 31	12	40 37	2.18 4.10		1.10	0.0	8	15 16	6	10 8	se. nw.	H. H. Haight. John Duncan.
Winona	. Winona	. 979	15	61.6	- 0.5 + 0.9	87 92	17	39	10	34	3.94	+ 0.22	0.90	0.0		15	4	11 13	e. s.	Perry C. Meyrs. Milton P. Mann.
Zumbrota	Goodhue	917	15	******	******	*****		****			*****	******			****					W. C. Rowell.
Milbank		. 1,148	18	58.5	- 2.4	92	7	29	12	46	0.81	- 1.03	0,36	0.0	4	11	4	15	nw.	I. T. Patridge.
Antigo Barron		1, 489	16 18	56.6 57.7	- 1.4 - 0.8	80 85	17	33	28 10	39 42	2.85	- 1.07	0.75	0.0	6	19	11	7 5	W.	Elton C. Larselere. Wm. A. Kent.
Belott	Rock	. 750	23	62.5 54.4	- 1.1	81 81	51	30 41 30	28		1.41 2.78	- 1.98	0.60	0.0	4	16 19	4	10 5	ne.	Smith Observatory. Oscar Brehmer.
Big St. Germain Damf Brodhead	Green	. 812	12	63.0	- 0.4	85	7	35	10	38	1.93	- 1.70	0.75	0.0	7	19	6	5	sw.	Hecktore D. Kirkpatrick.
Burnett Darlington Deerskin Dam	Lafayette	. 867	5	59. 4 61. 1	*******	81 84	7	34 31	28 10	36 41	3.11 4.10	*******	1.90	0.0	8	14 20	6	10	ne. ne.	Geo. W. Smith. S. P. Nelson.
Deerskin Dam Delavan	Forest	1,625	17	61.3	- 1.5	81 84	17 5	35	281	36	2.37 1.62	- 1.79	0.46	0.0	10	15 16	11 5	9	SW.	Wm. E. O'Neal. Elwood S. Austin.
Dodgeville Downing	Iowa	. 1, 116		58.4		88	17	28	10	45	2.71		1.15	0.0	4	81	56	****		Geo. W. Butler
Eau Claire	Eau Claire	. 800	19	60.2	- 0.9	86	17	36	10	38	2.18	- 1.75 + 0.52	0.59	0.0	6	13	8	9	sw.	Eugene F. Stoddard. Robert D. Whitford
Grand Rapids	Burnett	. 1,095	11 19	57.8 61.0	- 3.2 + 2.4	83 90	7 7 7	34	28†	46	2. 12	+ 0.52 - 2.06 + 2.71	1.60	0.0	8 5	15 15	6	9	sw.	Willis B. Raymond. Theodore Olsen.
Hancock Hatfield	Jackson	. 973	18 15	60.3 59.0	- 0.7 - 1.8	82 84	7 7	38 29	10	33 42	2.41	+ 2.71	2.70 0.60	0.0	5 7	15 13	10	5 7	8W.	Frederick B. Hamilton. Walter S. Woods.
Hayward Hillsboro	Sawyer	1. 197	19	56.2 57.2	- 1.4 - 3.3	83 81	171	32 31	101	48	2.68 5.88	- 1.08 - 1.25 + 2.83	1.36	0.0	5 8	15	8	13 4	80. W.	William E. Swain. Emil V. Wernick.
Koepenick	LangladeVilas	. 1.083	20	53.8 57.6	- 5.1	79 85	7 7	26 38	10	41 29	2.83	- 1.38	1.40	6.0	8 6 5	23 18	0 5	7	sw.	Edward S. Koepeniek. W. J. Lovett.
La Crosse	La Crosse	. 719	38	60.6	- 1.1	84	877777777777777777777777777777777777777	40	10	32	2.95	- 1.17	1.12	0.0	8	14	5	11	8.	U. S. Weather Bureau.
Lake Mills Lancaster	Grant	. 1,070	19 20	60, 1 61, 6	-1.3 -0.4	82 84	7	38 37	28 10	34 35	4.43	- 1.63 + 1.12	0.58 2.10	0.0	8	13	11 8°	6 90	sw.	S. Newton Dexter Smith. Edward Pollock.
Long Lake	Oneida Dane	1,592	32	54.0 61.0	- 0.1	93 81	7 7	27 45	28 27	46 29	2.41 1.83	- 1.35	0.61	0.0	10 8 7	14	7 8 5	9	SW.	Louie Frank. U. S. Weather Bureau.
Mather	Juneau	962	6 14	56.4 58.8	- 2.0	83 82	7 7	30	28 28	43	4.72 5.38	+ 2.22	2.23 1.90	0.0	8	13 19	5 3	12 8	e. se.	Frank Evans. Eugene L. Hitchcock.
Manston Meadow Valley Medford	Taylor	974	19	57.9 56.6	- 2.4 - 3.1	83 81	7	32 32	28 10	43	5. 12	+ 1.50	2.70 1.10	0.0	6	11	14	5 3	sw.	Charles H. Johnson. William Zeit.
Merrill	Lincoln	. 1, 267	4		*******										****			7		Frank M. McElroy.
Minocqua			6 2 6	59.5		81 88	17	34 34	28 10	39	2.27 1.95	*******	0.72	0.0	11	14 12	8	10	w. nw.	Benjamin W. Applebee. Dr. Charles Hebard.
Mondovi Mount Horeb Muscoda	Dane	. 1,226	6		*******	81 86	79	36 35	10	32 42	2.28		1.40	0.0	8 7	13	8	13 13	nw. e.	W. M. Lewis. Henry Eckstein.
Muscoda Neillaville New Richmond Osceola	Clark	996	21 5	59.7	+ 0.3	85 90	7	35 52 38	10 14	40 41 f	2.57 1.49	- 1.20	0.78 0.72	0.0	6	111	81	51	nw.	William Heaslett. Frank A. R. Van Meter.
Daceola Park Falls	PolkPrice	806	19	59.5	- 0.3	90	16	34	101	45	1.93	- 2.12	0.66	0.0	4	15	6	11	n.	Charles W. Staples.
Portage	Columbia	809	18 14	54.3 60.0	- 1.3	82 80	7	30 37	10 28	43 33	2.53 4.88	+ 2.05	0.85 1.55	0.0	7 7	16 20	5	5	sw.	Flambeau Paper Co. James Clear.
Prentice	Price	1,551	23 12	61.8 53.8	- 2.0 - 3.0	89 78	17 7†	39 28	10 28	45 42	4.54 2.21	+ 1.10	2.06 0.80	0.0	5	11	5	13 12	8.	Jas. A. Gillis. Joseph G. Lash.
Phinalander	Oneida	1 550	4 2	56.2 60.9		81 86	7 7	35 38	28 28†	38 42	2.49		0.51	0.0	10	14 18	5	10	sw.	John Lind. Kilien Derleth.
Sauk City Shullsburg Solon Springs Spooner	Lafayette	1,019	4	60, 6 54, 6	******	82 85	7 71	36	10	32 47	4.96		2.73 1.40	0.0	6	13 15	6 3	11 12	SW.	Harrison B. Chamberlin. John M. Sayles.
pooner	Washburn	1,104	15	57.5 58.0	- 2.3	83 81	17	35 30	9	33	2.56	- 0.51	0.85	0.0	5 9	21 15	4	5	8.	Horace A. Bresce. W. Humphrey Scott.
Stanley	Portage	1, 113	17	57.8°	- 2.6	82	7	33	28	350	2.66	+ 1.27	0.75 1.75	0.0	6	140	30	120	nw. sw.	Garry E. Culver.
Sugar Camp Dams Twin Lakes Dams	Oneida Vilas	1,582 1,625	1	******	*******						2.42 2.62		0.51 0.75	0.0	6	7	16	7	sw.	Robert Hayes. Albert D. Hansen.
Valley Junction	Monroe	930	18	57.4 60.2	- 2.7 - 0.9	80 82	17	32 40	101	38	4.99 5.03	+1.65 + 1.18	1.80	0.0	6	14	10	14	hw.	Frederick Muermann. Henry E. Rogers.
Vudesare	Vilas Jefferson	1,600	19	55. 1 60. 4	- 0.9	81 80	2† 7 7	32 37 35 35	10 28	42	1.46	- 0.92	0.55	0.0	5 9	19 15	6	5 5	W. SW.	Louis L. Thomas. Charles J. Salick.
Vaukesha	Waukesha Marathon	864	14 17	60.3 58.3	- 2.1 - 0.9	82 80	7	35	28† 28	36 36	2. 25 3. 82	- 0.80 + 0.12	1.12	0.0	7 5	14ª 17	9*	6ª	sw.	Carroll College. George H. Halder.
Neyerhaeuser	Rusk	1, 297	3	55.6		85	17	29	10	43	2.69		0.80	0.0	8	10	10	10	s. ne.	Miss Etta Stiles.
Whitehall	Trempealeau		18	59.2	- 2.4	84	17	32	10	43	2.86	- 0.94	0.95	0.0	5	17	0		w.	Hans J. Haugh.
Albia f	Monroe Kossuth	959	12 36	65. 6	+ 0.8	95 86 87	18	39 35	10† 27	41 34	3.02 2.83	- 0.54 - 0.31	1.10 0.75	0.0	13	15 16	5 5	9	e. s.	J. I. Chenoweth. Dr. F. T. Seeley.
lita	Buena Vista	1,513	19	61.0	-1.9 + 0.9	87 89	7† 11	33	27 10	40 38	2.69 4.62	-0.49 + 1.37	1.05	0.0	9	13 12	10	7	8.	David E. Hadden. C. Schadt.
mes	Story	926	34 34 10	63.5	+ 1.2	90	11 18	39 36 35 36 36 35	10	45 35	4.63	+ 1.24 + 0.47	2.20	0.0	8	15 14	8	7	s. nw.	Lowe State College
delleplaine	Benton	828	20	62.8	- 0.8	87	18	36	10	37	3.47	+ 0.51	0.90	0.0	8	12	9	9	nw.	S. P. Van Dike.
Bloomfield	Wright Davis		3	61.7	*******	86 92	17	36	27 21	37 42	2.14 3.01		1.09 0.84	0.0	6	7	17	6	sw.	W. R. Vandike. S. P. Van Dike. Geo. P. Hardwick. C. R. Davis. B. R. Vale.
Soone	Van Buren		19	65. 5 63. 0	- 1.9	93 89	18 30	38 37	10	36	2.34	- 1.70	1.13	0.0	8	16	2	12		B. R. Vale. Carl Fritz Henning.
Britts	Boone Hancock Tama	1, 236	13	62.0	+ 0.3	89	17	34	27 27	36	1.37	- 2.37 + 0.81	0.50	0.0	9	13	9	8	8.	L. M. Goodman. J. S. Guynn.
Burlington	Des Moines	544	14	65.6	- 0.6	94	18	42	27†		2.77	- 0.35	0.78	0.0	14	15	3	12	8.	Max E. Poppe, jr. Mrs. Jos. J. Wolfe.
Cedar Rapids	Carroll	733	20 28	63.2	- 2.2 - 0.8	86	29	34 42	26 10†	40 45	4.74 3.21	+ 1.85 + 0.39	1.62	0.0	9	11	6	10	nw. s.	W. J. Greene.
Charles City	Cerro Gordo	1,241	19 12	61.0	- 0.7 - 0.2	86 97	17	39	28 8†	35 47	1.74	- 1.06 - 1.33	1.00	0.0	5	11	5	17	8.	U. S. Weather Bureau. Oscar Stevens
Columbus Junctions	Clinton	593	43	63.4	+ 0.1	85 86	5† 18	38 40 41	28	35		+ 2.15	3.25	0.0	11 10	12 20	9	9 .	ne.	Luke Roberts. J. B. Johnston.
Davenport	Scott		39 17	65.4	+ 0.7	84 86 85	18	45 35	28 27 27 10	30	2.40	- 0.74	0.81	0.0	9	12	8		W.	U. S. Weather Bureau. F. H. Baker.
Delaware	Delaware	1,083	19	62.2	+ 0.4	85	7† 11	40	101	36	3.79	- 1.01 + 0.52 + 0.75	1.60	0.0	12	12	13	5	se.	William Ball.
Des Moines	Polk Dallas	861	32 10	65.2	- 0.6 + 0.6	88 93	30	36	10+	40	3.82 3.96	+ 0.75	1. 32	0.0	9	11 15	3		8. 8W.	U. S. Weather Bureau. R. D. Minard.

Table 1.—Climatological data for September, 1910. District No. 5—Continued.

			yrs.	Tem	perature	in de	grees	Fahr	enhei	t.	Pred	pitation	, in in	ebes.	days	-	Sky.		tion.	
Stations.	Counties.	Elevation, feet.	Length of record,	Меап.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind	Observers.
lews-Cont'd.	Dubuque	639	37	62.8	- 0.8	84	5	41	10	29	3. 10	- 0.49 + 1.23	1.44 1.56	0.0	8	11	7	12	8.	U. S. Weather Bureau.
Earlham	Madison	797	8 31	65. 0 63. 0	+ 0.5	90	18	34		39 42	5.02	+1.23 + 1.30	1.56 2.28	0.0	9 7	14	3 7	13	80. 80.	George Phillips. Chas. Reinecke.
Elma	Howard		1	59.2		87 85	17	35 34 35 37 34	10†	36	1.18		0.25	0.0	10	12	13	5 17	ge.	Chas. Reinecke. H. A. Moore. A. O. Peterson.
Estherville	Emmet	. 1,298	15 26	58. 5 64. 0	- 2.1	88 86 85	18	35		33	4. 23 1. 73	+ 1.00	1.55	0.0	13	13 16	5	9	s. sw.	R. Monroe McKengie.
Fairfield	Fayette	1,003	20	61.0	- 1.3	85	79	34	10	38	4.81	- 1.74 + 1.58	2.58	0.0	10	17	5 7	6	80.	R. Z. Latimer.
ayettes	Winnebago	. 1. 226	16 10	62.2	- 1.1 - 0.4	89	17 18	36 36	10	36 43	2. 28 3. 82	- 1.34 - 0.75	1.03 1.30	0.0	5 9	14	1	15 14	8.	J. A. Peters. J. F. Monk.
Fort Dodge	Lee	516	61								2.39	- 1.42	0.47	0.0	7	8	7	15	5.	Miss L. A. McCready.
ilman	Marshall	1,052	11 19	60.2	- 1.7	81	79	39	10	29	5.41 4.81	- 1.34 - 0.75 - 1.42 + 2.51 + 1.18	2. 15 2. 32	0.0	8	11	9	10	sw.	J. L. Wylie. F. L. Williams.
Grand Meadow	Butler		12	62.6	- 0.3	89	17	37	10	37	2.06	$ \begin{array}{r} -1.08 \\ +2.15 \\ +0.52 \end{array} $	0.48	0.0	9	11	10 8	9 7	8.	J. L. Cole. D. W. Brainard
rinnell	Poweshiek	1,023	18	65.0	+1.2 + 0.2	93	18 17	37 35	10	37	4.50	+ 2.18	1.59	0.0	6	17	0	13	8.	J. B. Calderwood.
outhrie Center	Guthrie	1,077	15	63.4	- 0.5	86 84 89 87	11	34	27 27 25	33	5. 95	+ 2.50	2.00	0.0	12	17 12	5 10	8 8	. 80. 8W.	J. B. Calderwood. D. G. Beardsley. E. C. Grenelle.
lampton	Franklin	1, 155	20 22	63.0	+ 0.1	89	17 17	38 34	27	35 45d	2.36 4.08	-1.20 + 0.91	0.92 2.00	0.0	9	17	5	8	sw.	Henry S. Wells.
Tumboldt	Buchanan	921	46	63.5	+ 1.8	91	2	39	101	35	3. 19	- 0.76	0.90 1.30	0.0	7 9	22 10	3 4	16	nw.	Henry S. Wells. George Donohoe. John L. Tilton.
owa City	Johnson	. 969	19 50	65.0 62.2	- 0.5 - 1.4	88 86	11 18	38 36	27 10		4.42 3.87	$ \begin{array}{r} -0.76 \\ +1.32 \\ +0.12 \end{array} $	0.80	0.0	11	15	1	14	nw.	A. G. Smith.
owa Falls			17	60.0	- 1.6	85	7	34	10	46	3.58	+ 0.61	1.33	0.0	7	16	3	11	8.	J. B. Parmelee. G. W. Jackson.
efferson§ Ceokuk	Greene	547	39	66.7	+ 0.3	91	18	43		31	2.08	- 1.89	0.49	0.0	9	12	7	11	8.	U. S. Weather Bureau.
eosauqua	Van Buren	644	18	64.0	- 2.9	91	18	37	10	47	3.43	- 1.97	0.45	0.0	11	8	10	12		J. H. Landes.
noxville	Warren		15								4.97	+ 1.14	1.68	0.0	12	11	14	5		Casey & Belville. J. B. Alter.
e Claire	Scott	. 576	10				1.555	98	10	40	3.63	-0.15 + 0.56	1.10	0.0		15	7	8	sw.	Miss M. T. Disney. Ralph B. Reasoner.
Iarshalltown	Scott Marshall Cerro Gordo	1. 132	18	63.6	- 0.5 - 1.3	90 89	17	35 35	10	48 36	3.51 2.61	+0.25	1.53	0.0		13	11	6 8	8.	J. S. Mills.
lason City§ lount Pleasant§	Henry	. 729	29	64.6	- 0.4	88	5	37	10†	35	3.78	$+0.10 \\ -0.92$	1.12 0.75	0.0		13	9		80.	J. W. Edwards. William Molis
luscatine	Muscatine	1. 169	50 13	61.2	- 0.5	87	17	38	91	35	2.80	- 1.33	0. 73	0.0	7	15	8	7	w.	A. F. Kemman.
ewton	Jasper	. 944	22					****					1 05	0.0	9	14	7	9	sw.	J. P. Beatty. Chas. H. Dwelle.
orthwood	Worth	760	14 12	63.8	-0.4 + 0.7	87 87	17 5†	36 36	10	33	5. 19 4. 61	+1.84 + 1.38	1.85	0.0	11	14	9	7		Chas. H. Dwelle. C. M. Miles. A. D. Bundy.
sage	Jones	1, 184	23	63.8	+ 3.8	89	17	38	27	38	3.27	- 0.29 + 1.44	1.50	0.0	10	14	6	10 12	nw. se.	A. D. Bundy. Joseph Boyd.
skaloosa	Mahaska	649	23 34 15	65.0	$+0.5 \\ +0.2$	88 96	11† 18	36 40	10	37 37	1.67	- 2.36	0.54	0.0	12	4	7	19	50.	Joseph Boyd. W. J. Mesmer. John H. Ver Steeg.
ella	Marion	877	8	65.4		91	11	23	10 27	41	5.92		2.02 1.90	0.0		20 13	10	7	nw.	John H. Ver Steeg. Ed. S. Gray.
erry	Dallas	1.426	14	63.9 62.0	- 0.5 - 0.8	88	17	36 35 35	10† 27	35 36	1.85	+1.91 -2.54	0.65	0.0	5	21	5	4 7	nw.	J. S. Smith. F. E. Hronek.
'ocahontas	do	1,248	6	61.5		86 88 86 90 84 84	17	35 40	27	34	2.91 3.41	- 0.90	0.93	0.0		13 15	10	8	8.	F. E. Hronek. Arthur Betts.
				62.2	- 1.6 - 1.6	84	30	36	27	37 37	5. 67	+ 2.49	1.67	0.0	6	19	3 7	8		C. M. Randall.
ac City	Sac	1,278	34	62.4	+ 0.9	84	30 17 11	36 37 38	27 27 27	37 45	3.25	- 0.03	1.14 2.25	0.0	11	16 15	6	9	#W.	E. N. Baily. R. D. Minard.
t. Charles	Sac Sac Madison Keokuk, Van Buren Buena Vista	877	14	65.3	- 0.3	90 88 93 89 86 84		39	10	32	4.60	+ 1.58	0.98	0.0	12	7	18	5	sw.	J. T. Parker.
tockport	Van Buren		. 8	64.6		93	18 18	35 36	10 9	39	2.58	_ 1 59	0.79	0.0	12	14	6	10	8.	C. L. Beswick. S. B. Fracker.
torm Lake	Guthrie	1,216	21 11	63.0	$+0.3 \\ -1.5$	86	17+	41	101	32 35	5.85	+ 3.43	2.10	0.0	7	10	12	8	80.	J. P. Fox.
ipton	Cedar	807	111	65. 6 63. 2	- 0.2 - 0.9	84	7†	44 35	27 10	30 36	5.00	- 1.53 + 3.43 + 2.01 + 3.93	2.14 3.00	0.0	10	16	6	8	80.	F. K. Gregg. I. F. Giger.
`oledo≸ Vapello≸	Louisa	588	16 12	64.1	- 1.6	86 84	11	43	10	30	2.37	-1.07 + 0.98	0.87	0.0	10	16	8	6	8.	G. W. Schofield.
Vashington	Washington	769 862	28	65, 84	+ 1.2	87 88	18 11†	42	10	32z 46	3.66	+ 0.98	1.50	0.0		11	13	6	nw.	Mm. A. Cook, M. L. Newton. Samuel F. Foft.
Vaterloo Vaukee	Dallas	1,039	7	64.0		87	11	36	10 27 10	32 36		+ 0.34	1.46	0.0	13	12	11	7	sw.	Samuel F. Foft. H. S. Hoover.
Vaverly Vebster City	Bremer	948	14	61. 9 63. 0	- 0.6	85 86	71	38 36 37 35	10	36 40	3.28	+ 0.34	1.45	0.0	7	13 15	11 10	6 5	8.	C. D. Carpenter.
Vest Bendi	Palo Alto	1, 197	17	61.8	+ 0.7	87	17	33	27	36	1.68	- 1.75 - 0.09	0.65	0.0	8	13	9	8		Joseph Dorweiler. F. P. Butler.
Vhitten	Hardin	1,036	13 19	62.6	- 0.2 - 0.7	85	11	36 37	27	33	3. 20 5. 33	-0.09 +1.97	1. 14 1. 69	0.0			3	15	8.	Robert S. Cooper.
Missouri.				04.0	0.1		-		-	-						7		15	80.	J. W. Pulliam.
iorin	Scotland	700	24 18	66.6	- 1.3	88	18	42	28	30	2.76 5.37	-1.35 + 1.81	0.64 1.55	0.0	12	15	8	12	sw.	U. S. Weather Bureau.
ouisiana	Pike	500	32	66.8	- 1.1	90	18	37	98	38	6.87	+ 1.81 + 3.54 + 7.45 + 0.68 + 1.29 + 3.78	2. 10	0.0	12	19 12	3	8	se. nw.	J. T. Farrell. J. F. Llewellyn.
fexicoteffenville	Audrain	797	32 32 17	66.9	- 1.9 - 0.5	88 90	8† 18	40	28 27 27	34	11.41	+ 0.68	1.75	0.0	9	14	6	10	SW.	Frank Hall.
ublett	Adair	1,000	30	65.8	- 1.0	89	19	39 45	27	32	5.40	+ 1.29	3.00	0.0	8	10b 10	10b	8b	se. n.	Lewis Spriggs. Dr. J. H. Frick.
Varrenton	Warren	865	20	68.6	- 0.1	90	12†	45	28	36	7.45	+ 3.78								
ollegeville	Jasper Starke	716	. 11	65.1	0.0	85	8	42	101	35 29	4.38	+ 1.36	1.00	0.0		12	10	11 6	8W.	Prof. L. C. Klosterman. W. R. R. Tatman.
aporte	Starke	716 810	14	63.9	- 1.9	82 88 83	5† 8 5	43	101	35	4.17 3.63	+ 0.46	0.97	0.0	15	10	10	10	n.	W. R. R. Tatman. Wm. N. Walton, jr.
lymouth	Marshall	790	7	64.0		83	5	42	15†	33	4.45		0.97	0.0	11	12	11	7	8.	J. W. Siders.
Illinois.	Marone	738	10	64.4	- 0.8	84	18	41	27	32	2.95	- 0.52	1.01	0.0	11	12	11	7	80.	Wm. B. Frew.
lexander	Morgan	670	17	67.1	- 0.8	84 88 83	18	39	28	37	5.78	+2.33	2.04 1.00	0.0		12	6	12 12	sw.	George H. Hall. J. C. James, jr.
ntioch	Lake	861	11	61.8	-1.5 + 0.1	90	11 12	36 39	28 28	36 33	4.51	- 1.37 + 0.85 + 0.90	1.90	0.0	7	14	7	9 12	sw.	Ed. V. Bohl.
urora	Kane	687	31	62.2	- 1.5	90 83	3	37	28	34 35 ^b	4.47		3.07 0.95	0.0		13	5 7		ne.	W. Holden. Rev. C. S. Adams.
emententon	Piatt	700	8	67.3	******	89 92	18	43 47	10† 28	36	3.72		1.50	0.0	4	8	15	7	nw.	F. H. Stamper. Prof. H. N. Pearce
loomington	McLean	840	19	67.2	- 0.7	89	18	39	28	36 27	5.39	+ 1.84	2.96 0.33	0.0	12	15	12	11	se. ne.	Prof. H. N. Pearce U. S. Weather Bureau.
airoarbondale	Alexander	359		73.5	+ 3.3	91 94	8 7† 8†	39 56 46	28	40	0.93 5.60	- 1.54	2.33 2.00	0.0	8	13	11	6	sw.	State Normal University
arlinville	Macoupin	663		68. 2	- 1.1	94 90 90 85	81	41	28 16 28 28 28 28 27 28 10	34	7.48	+ 3.98	2.00	0.0	12	15	5 6 2	10	8.	R. O. Purviance. J. F. Ziegler.
linton	Dewitt	727	18	66.9	- 2.1	90	18	42	28	33	3.66 5.36	+ 0.94	0.78 1.62	0.0	8	15	2	13	8.	J. F. Ziegler. Dr. J. R. Lambert.
obden	Union	656	27	74.2	+ 3.3	95 82	8 7 6† 8†	49	28	33	2. 10	- 1.18	1.50	0.0	2	15	10	5 7	n.	
Jakota	Stephenson	929	5	62.0	- 0.8	82	61	38	10	34 36	1.86	+ 0.59	0.68	0.0	13	10	13	10	8W.	Prof. J. H. Coonradt.
Decatur	Lee	725	20	63.6	- 1.0	90 83	11	40	28 28	37	4.76	+ 0.59 + 1.39	2.78	0.0	12	16	9	5 5		H. V. Bardwell.
/U UJUOIN	Pores	459	22	78.3	+ 2.2 + 0.2	93 86	8 3 7	51 39	101	37 34	2.41 5.73	- 0.13 + 3.02	0.78 1.60	0.0	13	14	11 5	13	sw.	Rev. G. W. Kerstetter. Prof. J. H. Coonradt. H. V. Bardwell. G. H. Knetsger. Ed. O. Welch. Elgin Observatory.
Dwight	Livingston Kane Henry	716	3	64.8	+ 0.2	83	7	40	28 10	34	2.97		0,95	0.0	8	6	23	1 13	sw.	Elgin Observatory. Prof. F. U.White.
2m man	Henry	842		64.4	- 1.0	89	18	43	271	40	4.11	+ 0.61	1.64	0.0	10	15	2	10	SW.	Froi. F. C. wille.

Table 1.—Climatological data for September, 1910. District No. 5—Continued.

			E.	Temp	perature,	in de	grees	Fah	renhe	nit.	Prec	ipitation	, in i	ches.	days.		Sky		ion.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind	Observers.
Illinois—Cont'd.	Bond	635	32	69.0	+ 0.2	89	8	48	28	29	6.47	+ 3.07	1.90	0.0	11	11	6	13	sw.	M. S. Oudyn.
	Pike	650	25	66.2	- 1.8	86	81	43	27	31	4.57	+ 0.64	1.00	0.0	7	15	5	10	80.	Geo. F. Kneeland.
alfway	Williamson	569	14	******	*******	*****					5.70	+ 2.39	2.11	0.0	7 7			****	*****	E. L. Hearn.
avana	Mason	475	18	68. 1	- 1.0	91	18	44	28	32	6.60	+2.71	3.55	0.0	7	11	18	1	w.	F. & C. Borgelt.
enry	Marshall	500	22	65. 3	0.0	85 90 87	71	40	28	34	3.53	+ 0.26	1. 19	0.0	12	15	4	11	ne.	Dr. F. A. Powell.
illaboro	Montgomery	675	16	68.2	- 1.1	90	81	44	281	38	6.14	+ 2.65	1.30	0,0	11	14	3	13	8.	Ira L. Woodward.
	Will	541	19	64.2	- 0.4	87	3	42	28	38	2.75	- 0.78	1.58	0.0	11	9	. 5	16	sw.	F. M. Mublig.
shwaukee	Winnebago	730	22	62.6	- 0.8	83	7	37	101	37	2, 66	- 0.40	0.76	0.0	8	13	7	10	8.	Geo. Stevens.
	Cook	657	18	63. 2	- 0.8	84 88	7	42	28	35	4.39	+ 0.59	1.40	0.0	8	15	5	10	BW.	Prof. F. E. Sanford.
Harpe	Hancock	698	31	64.6	- 1.6	88	18	40	271	35	2.74	- 1.35	0.75	0.0	6	14	4	12	se.	Jno. S. Campbell.
nark	Carroll	883	21	62.2	- 0.4	84	5	33	10	40	2.37	- 0.90	0,73	0.0	13	19	3	8	ne.	M. N. Werts.
Salle	La Salle	536	33	64.8	+ 0.9	83	3	41	28	31	5,09	+ 1.89	1.60	0.0	13	11	8	11	ne.	U. S. Weather Bureau
	Logan	482	22	66. 2	- 1.1	83 87	13	37	28	33	4.41	+ 1.02	1.62	0.0	10	13	10	7	8.	Prof. C. S. Oglevee.
	Iroquois	633	23	65.0	+ 0.2	88	8	39	10	40	4.50	+ 1.11	0. 95	0.0	12	12	5	13	AW.	Jos. H. Peltier.
	St. Clair	425	20	71.6	+ 1.7	95	12	42	28	39	7.84	+ 4.15	3, 30	0.0	11	12	11	7	se.	Geo. Henrich.
nacoutan	Woodford	745	17	66.0	- 0.1	90	18	40	99	37	3.91	+ 0.25	1.30	0.0	9	13	10	7	SW.	O. M. Davison.
nonk	Warren	784	18	65, 21	- 0.8	90 85	221	42	28 28	35=	2.80	- 1.32	0.85	0.0	8	10	10		SW.	Hugh R. Moffet.
		685	16	63.4	- 1.0	82	17	38	10	33	3.80	+ 0.29	1.33	0.0	10	14		9		S. A. Maxwell.
	Whiteside	638	11	67.4		82	17	39	10	34	4.78	+ 1.81	0, 90	0.0	11	16	7	12	80.	
	Christian				- 0.5	80 90 83	8† 5† 7	43	28 28	32					9		3		SW.	J. D. Lowis.
	Jefferson	511	16	70.4	+ 0.1	90	31		28	36	9.21	+ 5.73	2.45	0.0		17		10	n.	Theo. P. Stelle.
	Ogle.	702	1	63.3		88	2	40	28		2.20		1.28	0.0	6	13	4	10	8.	Samuel Ray.
	La Salle	500	24	64.4	- 0.8	83	31	41	28	35	8, 23	+ 2.75	1.65	0.0	11	14	1	15	sw.	Miss M. M. Harris.
	Christian	692	24	67.9	+ 0.2	88 91	12	45	10	28		+ 2.48	1.98	0.0	12	20	3	7	sw.	C. W. Sibley.
	Peoria	609	33	65.3	+ 1.0	91	18	29	28	34	3.12	0.00	0.87	0.0	12	8	12	10	8.	U. S. Weather Bureau
	Livingston	546	8	66. 6		92	7	42	28	36	4.10		1.12	0.0	12	.8	12	10	SW.	Geo. Butterworth.
	McHenry	956	51	62.2	+ 0.6	81	8 7	42	27†	29	2.57	- 1.14	1.33	0.0	9	10	8	12	sw.	John West James.
	Winnebago	763	18	61.6	- 1.8	82	7	41	101	36	2.12	- 0.80	0.75	0.0	9	20	0	10		Hosmer C. Porter.
	Schuyler	670	19	66.5	- 0.1	88	18	44	27			+ 0.32	1.80	0.0	7	12	4	14	8.	H. F. Dyson.
	Kane	700	15	63.0	- 1.1	83	7 8†	38	10†	36		- 1.70	0.90	0.0	8	11	10	9	ne.	Dr. Wm. H. Bishop.
Peter	Fayette		00001	69.7		90 91	81	46	28	33	5.27		1.50	0.0	9	10	9	11	ne.	M. L. Lansford.
arta	Randolph	538	24	70.6	+ 1.0	91	12	39	28	35	4.47	+ 1.17	1.20	0.0	12	13	13	4	8.	Jas. A. Caldwell.
ringfield	Sangamon	644	33	67.6	+ 1.2	89	8	45	28	28	5.34	+ 1.97	2.11	0.0	10	12	6	12	8.	U. S. Weather Bureau
eator	La Salle	626	17	64.6	- 1.8	88	11	38	28	43	4.59	+ 1.17	1.11	0,0	12	15	0	15	sw.	Edw. F. Sweetser.
	Moultrie	530	10	68.0	- 0.1	90	8	43	101	26		+ 4.95	2.15	0.0	11	13	10	7	sw.	C. A. Corbin.
camore	De Kalb	855	30	62.6	0.0	86	20	37	101	46		- 1.59	0.75	0.0	9	15	2	13	80.	Miss E. J. Davis.
kilwa	Bureau	798	16	65.8	+ 0.9	87	3	40	27	34		- 1.91	0.85	0.0	10	18	3	9	8.	F. I. Smucker.
lnut		717	19	65, 9	- 0.8	84	11	42	28	33*		+ 0.88	2.24	0.0	11	18	5	7	50.	O. C. Nussle.
	Greene	573	2	66.8	0.0	89	8	39	28	35	7. 29	, 0.00	3,00	0.0	12	14	5	11	sw.	Dr. R. A. Pritchett.
	Shelby	681	11	68, 6	+ 1.3	93	8	40	28	40		+ 1.08	1.48	0.0	ii	12	5	13	sw.	Herbert Rose.
nnebago	Winnebago	900	23	62.9	- 0.4	83	7	38	101	36		- 0.87	0.85	0.0	7	17	8	5	sw.	Frank Osborn
MINOUS MEDICAL CONTRACTOR OF THE PARTY OF TH	Transcongo	584	23	62.7	- 0.4	84	3	37	28	35	5, 58	+ 1.95	2,40	0.0	13	13	5	12	w.	Herman A. Grimwood
orkville	Kendall																			

*, *, *, * etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

* Precipitation included in that of the next measurement.

* Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

* Separate dates of falls not recorded.

† Data are from standard instruments not supplied by the U. S. Weather Bureau.

† Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs Estimated by observer.

Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

Table 2.—Daily precipitation for September, 1910. District No. 5, Upper Mississippi Valley.

															D	ay	of m	onth	ì.												*	
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
North Dakota.																							99			28	21					
menia	Red		. 05	T.		T.	. 18			****		. 17								T.			.39	T.								
ottineau	Sheyenne	40				2.45											. 10						783			T.						
rosby	Mouse	28	.01																													
evils Lakeonnybrook	Mouse																					****		***	8							
unseith	do	60			. 28	93	T	****			****		****	****	****			****					T.		8							
dmore	Sheyennedo		1.11	.02		.06		****						T.									. 45			. 69	.20					
rafton	Red																												1			
ranville	Mouse	84			1	3 44			-							1							. 10									
annahansboro																										. 02						
illsboro	do		.30			2. 13	****	****	****	****	****	.20	****	****			****	****	****	****			. 22			. 03						
kota	Sheyenne Pembina					1.89	1.77																									
rimore	Pembina					1.90	1.47								****			T					. 52	***		. 57	.31	3				
sbon	Sheyenne	4	T.	T.	T.	.35	. 10	T.		****								T.			T.											
cKinney	Sheyenne	T.	T.		T.	2.16																T.	T.									
anfredayville	Red			F82	****	10	783								10000			1000		1000			T.									
inotinto	Mouse	10	. 15		1.00																		. 45		T.							
riska	Sheyenne		. 14	.01		. 20						.12	****	****		****	A.	****				****	24			. 04						
ark River	Reddo		70			.74	1. 24																. 28									
ower	Shevenne		75																			T.	. 32				. 6			T		
ratt	Mouse		. 54		1,00		****		****			****			****	****	****		****													
owner																							. 35									
ahpeton	do					3.63				****			****	***		***				***												
alhalla	Pembina	8				3. 63																										
esthopeillow City	Mousedo	4	6 .00		1.03	. 05											T.	****		***	***	***	.17			***						
Minnesota.						50							T.			T.							. 18	1 .1	0		1.3	0				
bert Lea	do		47	. 26	T.		. 02										. 02	.00					. 00	T	00		1.0	6 .0	7			
ngus		1	7		. 72	1.18						90											35			.2	4	ò				
agley	do		36			. 27	.00					. 24														T.						
audetteeardsley																										. 30	.2	2				
eaulieu	Minnesota		99			T						27				12							. 0	5		.0	9 .5	7				
ird Islandaledonia	Mississippi			T.		. 64	. 69						. 61	1						T.				.0	6 . 7	3 .0	5	3	5			
ampbell	Red		60	. 10		. 02	.04					18		. 00	3			.00		T			- 81		5		. 7	0 .7	0			
ass Lake																		. 0.					01	0		3	2 1,0	7				
ollegevillerookston												T.					7						2	T	×	1	T.	R 4	· · · ·			-1
etroit	do		00	J . 40			. 10																				. 1.4	0				
airmont (near)	Minnesota. Mississippi. do. Red. Mississippi. Red. do. Mississippi.	***	01	i	. 15	. 10						. 19		0	1								. T.	1		. 1	1.0	2				
armington	do		. T.		T.	. 12						.40						00					2				1 4	9			** ***	
armingtonergus Fallsort Ripley	Red		. 72	8	T	. 20	.06		****			****											T.	.1	0		1.0	8 .1	9			
oston	Red		3	6 .00	.05	.17	.04					. 30											2	3		. 2	6 .2	8				
ram	do		6	0		1.60						. 15										1	. T.				8	2				
rand Meadow	Mississippi					12.74		Acres de la constante de la co		Acres.		.09	T.	.0	6					0	4		. T.	T	6	8	8	2				
fallock	Red	T.	. 6	0	T.	2.50							***					. T.					1.1	0 .6	11	2	4 .1	3 .0	5			
alstad	do		3			. 53	.24	****	****			T.											0	7			. 1. 6	8				
inckley international Falls			. 4	8	T.	.36	.34					. 12									2		9	0		T.					. Т	
elliher	Red		7	8								. 10				0	7							1.0	3	1	81.1	6				
ake Crystal	Minnesota Mississippi		1.0	1			.44					. 21											5	1		1	61.1	1 .0	5			
ittle Fork	Dains		4	9		. 16	. 25	\$									T			. 1	2	T	. W	T			1.2	0				
ong Prairie			5	5	4	T.		T				T.	T.	T.		.4	0	0	8 T.				1	8		3	0 .1	8				
ynd (2)	do			35	8							1					6								77		. 1.1					
fapleplain	Mississippi											T	***				T.	T.				1	1	3		. 3	5 1.0	8				
lilaca	do		3	5	. 12								.00	2		1	2	T.	T.				· T.		T.	8	8 .1 9 .7	8				
inneapolis	Mississippi		. 1. 1	9	. 07	.09	***	* * * * *				. 00	T		1	1	0 .0	2 .0	1				0	9 . (02		8	5				
fontevideo	Minnesota			1.		. 26						Um			* * * *		* [* * * *			N N K K						.0	7 .3	7				
lora	St. Croix		3	3		. 03						. 01										1				5	31.2	0				
orris	Minnesota	***	0	4																			2	0		3	0 .4	0				
New London	Minnesota		T.		.36	. 14						. 18	.00	3 T.		T.	3 T.	199					0	3 T	0	8 .0	01.5	5			** ***	
lew Ulm!!!			· T.	.2	9	15			1 7				. 1	T.	T.	.2	o I.	T. T.					T	1.	04	8	2 .4	6 T				
sakis ark Rapids	Mississippidodo.	***	5	2 .3	7	.00	.8	7															2	51.1	2		0 .7	0 .2	1		T	
ine River Dam	do		. 2.0	0			.3	0										. T.						3		1.0	01.4	0 .1	3			
okegama Falls ed Lake												. 24											4	2	02 .3		2	5			T	
ed Wing!!	Mississippi				00	2 . 14	.0	6					.3	0									T.				4 .3	4		****	** ***	
ed Wingedwood Falls	Minnesota		1	9		09							.5	8			1									4	2	8 .1	18			
eeds Landing ochester	do	***				. 85							. 0	5 T.												6	4	0 .2	2		** ***	
t. Charles	Red		5	1		. 75								T.		260.00				.0	8		5		05 1. 0	0.0	8 4	io . i	18			
t. Charles	Mississippido	***	8	i	.0	. 90						. 00						T.					: .i	5		4	71.0	00				
t. Paul	do					2 T.						. 17					. T.	T.					. T.	T		2	2 .6	3				
t. Peter andy Lake Dam	Minnesota											94					0	1					. 4	5			4 1.7	70 .1	10			
andy Lake Dam tate Sanatorium	Mississippido					0.0		5			vir.e.	21											5	0		9	5 1 1	10 .	18			
tillwater	St. Croix		4	0			.0	1				. 01	1 .3	5													1.5	10				
aylors Falls	do					94					T.	. 22						. 0	6	0	5		6				01.6					
Varroad Vest Concord	Mississippi		1	.1	. T.	. 50						00	ΙТ.													2	01.6	10				
Villow River	St. Croix					38							70													T	1.6	00				
Vindom Vinnebago Vinnibigoshish	Des Moines	***	- T.	T.	. 20	4 .67			1.0				1.1	1 .0	7	0	OT.	T	T.	T					02 .0	8	. 1.1	10 T				
	Minnesota Mississippi	***	100		T	.10	V 0					0.0	1	1			1		1	1		1	1.4	9		1 . 2	riti 4	M . 6	105			

TABLE 2.—Daily precipitation for September, 1910. District No. 5—Continued.

															1	Day	of n	ont	h.														1
Stations.	Hiver basins,	1	2	3	4	8	1	7	18	9	10	111	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	-30	31	1
W		-	-	-	1	-	+	+	+	-	-	-	-	-	-						-		-	-	-		-	-	-	-	-	-	+
Minnessia-Cont'd.	. Mississippi			0	T	. 2.1	11 7					. 00	90	.01										T.		1	-		-		1	1	1
inonaorthington	Des Moines						17							. 07	. 05	.80	.05	* 6 * 5			****		.01	. 12	. 95		. 60	T.		***			
South Daketa.	. Missimippi																																1
ilbank	. Minnesota								. 3			1		1		06							94			- 00			1				1
Wisconsin.		-	-	1	1		1		-							. 100					0 - 0 0		. 01			. 00	. 00			1			1
atigo	Wisconsin		- T	9 +22	* 0 * 0		OT						.51				1600						T.		.72		. 34	.00					
loit	Rock					. 3	16		0 00	** ***	***	40	1			****		T.	****	****			T.	****	T.	****	1.00			× * * *			-
g St. Germain Dam.	. Wisconsin		4	5 .0	5	2	3 .:	12	T			. 62											T.	. 14	. 40		. 55	. 13					1
odhead	Rockdo					1.3	4	10					1 44	7			0000	64				2 * * *	T.	. 25	. 32								
rlington	Wisconsin. Rock.					3	0						1.50					.01				****		.06	1.90		. 10		1				-
erskin Dam	Wisconsin		3	5 . 1	0	.0		18	-			43	. 12					T.					T.	. 00	. 23		. 46	.36					
odgeville	do			40.00																					T.	***	. 15				- ××		
wning	Chippewa		100															* 4.5 *															1
u Claireand Rapide	Wisconsin		. 1		0	-	4	0				52	05	T.			T.	T.					T.	.04	. 59		. 56						
antsburg	St. Croix		2	5		1	0				13	2	. 50				.05	. 03			T.	T.		.04	1.26	1.60	****	. 33					
ncock		140				2.7	0 .:	18					. 82												1.48		.31						
ward	St. Croix		.11.30	ñ		1	2					1.85	. 80					T			***		90	. 05	.48								-
Isboro	Wisconsin		3	5	1.1	8 .5	2					1.85		T				T.	T.	T.			. 14	1.35	. 10		. 39	. 00			****		1
epenick c du Flambeau	Chippewa		44	8	1.00	- 0															***			T.	. 58	.04		. 47					
Crosso	Mississippi		. 1	8	1.0	2 .1	2					. 86	****	****							***		.04	.50	. 43		. SEE						.1
ke Mills	Rock			. 01	.0	3 .1	6		T				. 45	T.				T.					T.	. 08	. 55		. 18	.06					1
ng Lake	Wisconsin		1	7 . 21	I.	. 6	7 9	1	T			49	1.50										.11	. 11	2. 10			****					-
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rill								4	1																								1.
ndovi	Mississippi		.00		.0	7.7				***		. 90	. 02		****		.01						.03	.06	.37	.01	. 50	.06					1
unt Horeb		400		. 04		. 2	7 .0	3				. 20	.11					T.	T.				. 00	. 05	1.40		. 28						1
seoda]]	Black	. T.	0.000	T.		- 44	0.0	· · · ·			0 0 0 0		. 70		T.				T.	T.				.06	1.84	. 10		. 64					-
w Richmond		T.	. 10			. 35	ĕ					T	9 min. 1	****							- 5		. 07		10	- 12	.79	. 65					
eolak Falls	do		. 60		T.	T.						. 02	A.										T. T.	T.	. 10 T.		. 65	. 60					
tage	Chippewa Wisconsin			3 30		1.96	. 1		000			. 49	90				T.						T.	. 25	. 03	T.	. 85						1
irie du Chien	Mississippi			T.		. 54				4			. 80		T.					T.			. 60	. 12	2.06	.06		. 72					1
	EEPs	181222	4.5			1			T			.45						4.					.06		. 24		. 80						1
k City	Mississippi St. Croix			.00		.01			1			. 43	. 30						***	1.		000					. 40						1
illsburg	Miseissippi				. 07	. 25	.0	4					2.73					0000									. 57				T.		1
on Springs	St. Croixdo	0000	. 60			-30			A	and the same							- 1			- 1	- 1	- 1	T			. 50	1.40						-
nley	do		.07	.01			.3	8				. 63 . 58 . 90	.07		****	***	***	T.	***	1.	***	***	T. T.	.04	75	•	. 86						
vens Point	Wisconsin					. 44	. 1	0				. 90	1.05					T					T.	T. 1	. 75		. 37			!	!		
n Lakes Dam	da	1	45	- Fift		9.0	Τ.				1	. 75											.11	T	.40		. 48	97					
ley Junction	do		6-5-5	****		1.80	.3				Jeses	A. c.	1.43											.001	. 13	****	. 33 .						
lesare	Wisconsin	****	****	. 20		. 82	3		T.		****	. 25	1.21	. 02			***	Ti I	.02			***	.10	. 05 2	. 04	T.	. 52						
ertown	Wisconsin			. 07		. 56	.0	7										.08					T.	.06	44	.08	. 55						1
ukesha	Fox				.30	.22							1. 12		100			26	1			1		01	19		91						1
erhaeuser	Wisconsin. Chippewa. Mississippi		. 46			-46	.0					.64	1.95				01	T					04	10	. 88 .		. 43	10					1
tehall	Mississippi				.80	.40	T					T.	T.					.01					T.	. 10	. 95	.70	.00	. 10				****	
lows.	Des Moines	. 15			05	08	O																		-						-		ı
ona	do		T.		. 48	.50			***			.04	. 40	T.	***	.75	. 23 .		166	. 10 .			.20	T. 451	. 10	.01	. 12 . 75	.01	***	***	****	****	1
11				T.	****	.01						.04	. 03			. 72	. 29						. 03	. 86	. 19		. 53 .				. 03		
P	Skunk			.02	10	.00					****	****	60	P	***	40	76			.02			. 69	. 46	. 88 .		. 05 .					!	1
tor	do	. 02		. 04	. 02	. 02						T. 1	1. 15		.04	. 14	. 10						.002	.50	21		. 12 .				.04		1
e Plainenond	do. Iowa. do. Mississippi. Des Moines do. Lowa. Cedar. Mississippi Raccoon. Cedar. do. do.		70	T.	.20		0000					781	. 85		0.0.0	. 01	. 45						. 15	.90	.85		.06				.04		
omfield	Mississippi	0 8 9 0		. 61		. 39						1.	84	.01	21	. 28	. 10						.51	. 58	. 22 .		.38 .						
aparte	Des Moines	. 19						. 06					. 26				. 50						1	. 13	***		. 17						
ne[Iowa		T	. 03	T.	00						T	T	00	. 03	161	.38 .	10					1	. 17 1	. 64 .	70	. 44					3	
kingham	Cedar		. 02		. 33							. 13		. 66	.01	18	. 30						75	901	13	1.	.50 .						
ington	Mississippi	. 18			. 20	.07	. 17		. 03				. 20	.18.			.18	03		04				.78	. 13	T.	. 21 . 48	. 10					1
oll ar Rapids	Cedar	.00	. 11		T	12	T	T.					43	T.	401	62 .	49	19		90		1	. 32 1.	.00	00	. 29	. 24						
rles City	do				. 17							.01		. 01			.04						23	80	20	***	. 24 . 28	1.					1
r Lake	do	00	***			7 00	****			1				00	. 10	20 .	. 05						20 .			1	.08						
imbus Junction	Iowa	. 20			. 20	. 15	. 03		****		****		. 35	.00	.01		88			33			45	O.E.	- 1	an:						1	
enport	Mississippi	. 09		T.	. 81	. 10							. 28		.01		Г.			05			. 55	22	10		.48 .29						-
orah	do		.06	.00	00	T.						. 04	. 16	.04									1	Γ. 1	90 .		.52 .47						1
Moines	Des Moines		T.	. 19	.01	. 94	.04		T.			1.28	.04	.01	T.	55	33			02	0000												-
loto	Mississippi Lowa Mississippi do do Des Moines Raccoon Mississippi Raccoon Mississippi Raccoon Wississippi Wapsipinicon	. 04	T.	. 28	T.								. 11	41.	T. 1.	45 .	72						35	92	04		.05 .						-
ham	Raccoon	.06	1.	. 19	T 17	. 15			T.		0.0.0	.37	. 24	Т.	T.	50	90						15 .	98	46 .		. 58 .				T.		3
der	Mississippi				.40	. 19	. 02					1	.50	T.	4 . 4.	001.	Γ.			00 00			. 30:1.	416 .	.03		. 12 .						2
a. erville[]	Wapsipinicon Des Moines	****	.02		. 10	. 25		***				.02	T.	. 05 .					08	r			17	06	18		. 25					***	1
field	Skunk	.00	****	.04	.05	1. 05			. 75				.05	T	15 .	55 .	15	7	r. 7	Γ		7	Γ	23	Γ.		. 25 .	Т.					4
otte	Skunk Mississippi Cedar				.30	. 18						.45	. 21	.07	Γ.	00	12	05		00			33.2	58	- 1		. 05 .						1
est City	Cedar			. 08	08	. 86			0000					T										10 .	21	1	. 03						2
Madison	Des Moines	.47		****	.47	T		.30				.45	40		.07	34 .	52						r 1.	30 .	90	07	.03 .60 .30						3
nan nd Meadow	Iowa		T.		. 25								98	01 T.		10	07				1	11	151	37.2	13		. 25						2 83
CHARLEST THE	ME LOUBLING CYCLE				70.0	587	411						40	. 01		1	PT	9		08	-		16	99 9	00		40			1		- 1	4
De	Cedar					8.00						and of a		THE RESERVE	0.030.0		2.0		8 8	00		6.63 *	ATP: -	044	UU.	SEAL .	32	0.0.00		0.00	See all		2

Table 2.—Daily precipitation for September, 1910. District No. 5—Continued.

															1	Day	of m	ontl	h.													
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
lowa-Cont'd.																										1		1			1	
rundy Center	Cedar	T.	34	. 00	. 22	.01			.01			T		****	01	1 30	1.00			****	****		1.71	1.77			15				T	
ampton	Cedar				. 15								****	T.		. 20	. 15						. 61	. 92	T.		. 33	3				
umboldt	Dog Moines				.01	. 04										.37	. 12			.01			2.00	.72	. 40		. 41					
dependence	Des Moines	00	2	. 10	T.	. 25			T.		****	T.	1.30		****	. 68	. 50	- * * *		****	**-*		.21	1.26	T.		.16				1:::	
wa City	Iowa	12	2	70	. 05	. 20	783						. 70		. 05		. 19	.80		. 06	T.			. 70	.80	T.	. 20) T.				
wa Falls	Raccoon	** 1777		T.		.01	1.		T.		****	****	. 33	****	T.	T.	. 28	.05	****					1. 23	1.00		. 31					* * * *
eokuk	Raccoon	2	\$. 02	.42	T.		. 05					.37			T.	. 17			T.			. 13	. 36			. 31	1				
eosauqua	Des Moines	32			.03	. 02	. 40	****	: 00		****	****	T.	. 45		T.	, 28	T.	****	.04				. 36	.40		. 10	T.				* * * *
noxville	do	T.		.01	. 10	.10	****	****			****		.02	1. 10		62	38			.01	****		. 24	1.68	.25		45					
Claire	Mississippi	12			. 05	1.10	. 25		T.	T.	1		. 20	. 73	. 03					. 10				. 55	. 01		. 20	.2				
arshalltown ason City	Iowa	T.	10		T.	. 03	T.	****				00	.76	T.	T.	07	. 29	T.		****			94	. 74	1.5		1 50					
ount Pleasant	Skunk	16		T.	. 19	.06	. 16	. 02					. 93	.03		T.	.74			. 03			. 23	.89	T.		. 31	l				
uscatine	Mississippi	11			. 05	. 18	. 10						. 22	.18	.04		. 10	.08		. 02				. 75	. 24		. 38	8 .3	5			
ewton	Wapsipinicon		****	****	.09	.00	****	****	****	****	***	****	****	****	****	***	. 12	****	****		****	****	.22	. 29	. 30		. 36					
orthwood			T.		1.70	. 92						. 14	. 03	.06		. 05			T.				. 92		.45							
in	Wapsipinicon	0	T		. 10 T	1.02					****	****	. 75	T	. 02	****	. 36			. 14			28	. 28	- 82	79	. 74					
kaloosa	Des Moines	06		.04	.06	.02			****			1.90		**		. 13	. 19						1.00	1.00			.00	5				
tumwa	do			.03	.06	. 05							. 07	. 01	T.	. 08	. 18	****		.03			. 22	. 54	. 36		. 04					
rry	Raccoon	00	.05	.06	. 12	.04			****	****		****	2.02		.02	1.30	. 60	****	****	1.		****	. 30	1.80	.00		. 20					***
over	Des Moinesdo					T.						T.	T.	T.		. 60	. 20						. 65	. 10			. 30					
ocahontas	do		09		T.	.03					****			05	***	. 92	. 35	'rp					. 93	. 31	.37	09						
idgewayockwell City																											. 85					
c City	do															1.14	. 36						. 85	. 30	. 13		.47					
Charles	Des Moines	01		.07	.01	08			T.			. 02	- 97	.01	04	1.60	- 74						.20	2.25	90		. 12					
ockport	do	20		.01	. 02	. 54		. 15			****	****	.38			. 03	. 34			T.			. 08	.71	.02		. 10					
orm Lake		782	.03	90	10	.01								793		1 00	. 15	T.					. 73	. 23 1. 20	. 07		.34	ķ				
uart	do. Cedar Iowa do Skunk Cedar Raceoon Cedar Des Moines do Iowa Dos Moines Dos Moines	4.	. 10	. 20	. 26	2.14	****	****	****		****		****	.65		1. 80	. 62		****		. 15		. 17	. 63	****		.38					***
ledo	do			T.	. 13	.02							1.72		. 03	.04	. 50			T.			. 40	. 83	3.00		. 23					
pello	do	18		T.	.20	.08	. 05					1 80	. 15	. 02	T.		. 22			T.			. 24	.87	***	**-*	. 36					
shington	Cedar			T.	. 30	. 18	****					1. 30	. 26		. 03	.02	. 21			.02				.48	1.71		.03	.0	8			
ukee	Raccoon	00	. 02	. 16	.06	. 01							.43		. 01	1.46	.88						. 32	. 89	. 03	T.	. 07					
verlyebster City	Des Moines		T.	. 02	T	.03		***		***	****		.44	.02	02	42	45			****	* * * *		22	1.32	. 38	****	54					
est Bend	do		T.		. 10							.02	. 02	T.		.40	.06						. 33	. 10			. 65					
hitton	Iowa	· ·		. 12	T.	T.			T				T.	T.	T.	T.	. 42						.88	1.14	. 54		. 22					
Missouri.	Des Addition		.00	. 14	.01					****	****							****	****		****	****	.00	1.00	.00		. Ic	***	***			
orin	Mississippi				.48	.31							.33	****		.02				. 16				. 35			. 31					
annibal	do	28	04	18	94	20		. 60	. 02	****		****	1.	.01	****	T.	25			. 10		****	.07	2.10	08	****	1.00				I.	***
xico	do	1. 15	. 92	.04	2.10	1.05	. 57	. 81	. 35	****			****	. 02			. 05				.02			2.12	. 26		1.75	. 20				
effenville	do	30	T.	T.	1.75	. 15		.75	. 23				T.	T.	05	T.	. 20	****		. 03			T.	. 65			. 64					
zrenton	dod	20	. 12	.01	2.54	1.29	.43	.08	1.03	.01	****		****	T.	.00	. 10				. 10	.01			1.08	. 10		. 21	. 56				****
Indiana.				-						-		20								-												
ollegeville		05	****	T.	.70	.71	. 17	****	40	T		. 28	30	85	****	***		07	20	. 30				1.00	15		. 05					
porte	do	01			. 12	. 20	. 186		. 30	, US			. 40	. 11				. 11	. 30	. 01				. 70	. 10	****	. 09	. 03				
ymouth	do			T.	.11	. 97		****	. 35				. 55	. 50				. 02	. 86	****				. 67	. 22	T.	. 02	. 18				
Illinois.	Mississippi	13		. 02	. 18	.07	. 40						1.01	T.	. 04		. 10			.01				. 69			. 20					
exander	Illinois	21	T.	.40	. 34	. 15	.03	. 03	2.04									****		. 07				1.06	. 33		1.12					
toria	do	T.	T	30	1.00	.45	T.	T	1 90				.70	****				T		T				. 10		* * * *	45					
rora	do	03			1, 39	1.68	.30	***	. 10				. 52	****						.08				. 16	. 14		. 67					
ment	Mississippi		,00	.75		. 75		****	. 25											. 10				. 35	. 95	****	. 56	1 80				
nton pomington	Illinois	04	.06	****	. 14	2.66	. 05	T.	. 63		****	****	.08	****						.11				. 69	. 05		. 55	. 03			1	****
iro	Mississippi	31	.01	T.		. 06	. 18		. 05	. 04					T.					T.	.01			T.	. 08	T.	. 17	. 02				
rbondale	do d	70	1 45	.00	1.45	90	1.51	.04	49	2, 33		****	****	****						.04			****	95	. 43	. 02	1.20	. 30				***
rlyle	Mississippi				1.65	. 50		1.80	. 25	.80	****			. 35									****		1.50		. 35	. 10)			
ester	do	T.	T.	.01	1.40	. 26	1.56	. 04	.07	. 03										19				70	.40	.08	49	. 18				
ntonatsburg	Mississippi	32	1.	T.	1.02	. 97	.05	. 68	. 10	***	****		.00			****				. 12	****			1.62	. 09	. 60	. 9.0	.01				
bden	do	T.				1	. 50		T.																. 60	T.		T.				
kota	Illinois	99	10	47	. 08	. 68	ica	11	60	****			.37 T	T.		****		****	. 05	10				40	70	. 28	. 22	08			* = * 5	****
xon nox	Mississippi	05	. 10	. 05	. 082	78	. 52		T.				.37	.03	T.			. 10		. 14				. 20	.04		T.	.40				
Quoin	do	** ****		.08	. 39	. 78	-::	. 13	. 20				1 44	****	· cra			00		. 02	T.				. 23	T.	. 58	****				
vightst St. Louis	Mississippi	05		.39	2, 21	. 20	19	. 77	. 55			****	1.40	. 14	A .	****	****	. 03		. 10	***			. 10	. 81		. 34	.00				
wardsville	do		. 25	. 12	3.70	.30	. 16	. 62	. 04															. 06	.70		1. 10					
in vall	Illinois	02		T	. 12	. 95	.40	***	***		****	***	. 44	T	09			T.		T			. 02	. 07	.05		. 90					* * * *
aftoniii	Mississippi		.08	.04	3.40	.70	. 18	****	. 24				1.01		· UG			.00			.08			. 92	. 25	.70	. 68			****	1	***
enville	do		.88	. 65	1.90	. 19		1.14	. 20				. 02							. 03				. 36	.50		. 60					
ggsville	Illinois	. 15	T.	. 55 T	. 63	T.	11	. 58	.57	1 00				T			T.			T				. 70	1 95	99	1.30					
vana	Illinois	14	****	.14	3. 55	T.		T.	1.53							***				. 07			****	. 75			. 42	****				***
nry. llsboro	do. Illinois. do. Mississippi do. Illinois. Mississippi Illinois. do. Mississippi Illinois. Mississippi Illinois. Mississippi Illinois. do. Mississippi Illinois. do. do. do.	08		T.	.35	.00	. 14	.04	. 92				1. 19		. 11		***	T.		. 03				. 36	. 04		.21					
iet	Mississippi	1. 10		. 22	1.30	.60	. 45	04	. 10	T.	***		91							20	01	****	T	.30	. 75	. 15	. 62	. 55	***			****
	Mississippi			.02	. 15	.72	. 34		. 10	****		***	.76					.09		. 20	.01	****		. 21	. 04		. 35		****			
Grange	Illinois				1.401	. 27	. 21		. 22				. 65					T.	. 05	T.			****	. 25			.34					
Harpe	Mississippi	50	T	T.	. 75	.07	00	Т.	***				.44	00	T.	T.		08		1.	***		10	. 58	18		.40	09				
Salle	do	04		T.	1. 10	.07	. 18	. 18	.00			1	1.60	. 50	.01			.03	T.	.50			. 07	. 10	. 10		. 12	. 00				
coln	do	10	.06	. 14	.28	.26		T. 1	. 62				T.							. 12				. 70	.47		. 56					
rtinton	do	30	1.	. 30	.40	. 13	T.	70	. 00	T.		98	59	T.					49	T	12.00		0.5	. 73	. 56		.91			0000		
scoutah		. 10	47	0.21	90	67	971	75	18	****		. 20	. 00	02	222				1 80	01			. 50	. 100	00	0.000	.09				10000	

Table 2.—Daily precipitation for September, 1910. District No. 5—Continued.

															I	ay (of m	ont	h.													
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26 2	27	28 2	29	30	31
Illinois-Cont'd.																												1		T		1
nonk	Illinois	. 14	T.	T.	. 75	T.	. 22						1.30		T.			T.		. 02			****	. 79		****	. 14					
onmouth	Mississippi			***	****	. 47	. 15		. 05				. 80			** *		. 09		. 15			****	. 85		. 24		**		** *		
rrison	do	. 01		T.	. 46	1.33	. 26																	. 39			.35					
rrison ville	Illinois	. 22	. 90	. 13	. 47	. 73	. 20	.01	. 46					****						T.				. 59	. 37		.70		***			
Vernon	Mississippi			1.03	1.54	2, 45	2. 15			. 18			****			****			***	****					1.22		.04 .	17 .	***	** *		
gon	do				. 40	. 88	. 25	T.	T.				.30							T.				. 05			. 32					
wa	Illinois				. 42	. 92	, 28	. 64	1.65				1.00	.09				. 10						. 20	****		.07	** 1	*** **			
A	Mississippi	. 36	.76	. 05	.46	1.98	. 14	. 12	.37											. 14				. 44	. 50		. 69		***	** *		
10	Illinois	27	T.		. 85	.07	. 25	. 49	. 07				.01					T.	T.	.04			.01	.72			.30				***	
tine	do	18		.04		.36	.11		.90				1.11				***	. 03		. 02				1.12			. 13		***	** *		
y	Mississippi	01			. 02	1.38	. 42		T.		****		. 56					T.						.08	. 03	. 01	.07					
kford	do					. 75	. 17											. 32	.03					. 14	.09	T.		27 .				
hville	Illinois			. 20	1.80	.11		. 58					T.									****		. 56			.54					
harles	do	. 00			. 38	. 62	.50		T.							***				T.				. 20	. 10	T.	. 12			** *	***	
etar	Mississippi			. 05	1.25	. 05	T.		. 45															T.	. 80		. 35		*** **			
ta	do	T.	. 40	.07	1.20	.90	. 33		.04					****						. 14				***	. 30	.01	. 10 .	08		** *	***	
ngfield	Illinois	. 18	T.	. 57	. 12	.06		. 24	1.87					T.						. 04				. 88	. 66 .		.72					
atorill	do	. 06			. 27	.38	.21		. 86				. 84	1.11	. 03			T.		. 23				. 38	. 11			11				
van.	Mississippi	. 08	1.23	. 15	. 59	1.75	. 07	2, 15	. 20												T.			. 23	. 93		.47					
more!!	do	. 07			.06	.75	. 20						.40	. 15				T.		. 03				. 12	.02	T.	7	C				
ilwa	Illinois	.09		T.	. 83	. 11	. 10	T.	. 17				. 85		.05			T.						.30			. 18					
mt	Mississippi				. 45	2.24	. 23						. 61		. 05	. 01				. 49				. 27	.02		.34					
awill	do	. 35			.44	. 11		. 12					. 43				. 19							. 53			. 42					
e Hall	Illinois	. 53	. 28	.08	. 88	.31	.02	. 16	.30							T.	T.			. 05				3.00	.37		1.31	COL				
isor	Miasissippi	. 08	. 35	. 05	. 40	.48	.05	.35	. 67										T.					. 05	1.43		. 45					
nebago	do	T.				. 85	. 35	-					. 70					. 03	-	T.				. 27		.35						
cville	Illinois	.03		. 01	1.00	2.40	.41	. 21	. 13			****						T.					1000	. 25			.06					
***************	Mississippi	. 00				1.37																	15			.52						

TABLE 3.—Maximum and minimum temperatures at selected stations, September, 1910. District No. 5, Upper Mississippi Valley.

-			LABL				*	mini	num	iem pe	rature	es ut s	etettet	i stati	ons, E	se pten	aver, 1	310.	Dist	rice 14	0. 0,	C ppe	291 180	steet p	piva	uey.		
				1	North	Dako	ta.												Minn	esota.								-
		Bottineau.§§		Devils Lake.		Lisbon.§§		Minot. §§		Pembina.§§		Collegeville.		Crookston.§§		Grand Meadow.		Montevideo.§§		Moorhead.		New Ulm 16		Pine River Dam.		St. Paul.		Winnibigoshish.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	M
	57 64 72 75 54	35 46 38 40 47	63 62 70 79 58	45 50 45 53 49	79 67 70 76 70	49 54 48 52 60	63 61 65 75 55	38 47 43 43 49	66 59 62 68 54	48 44 44 44 49	74 74 72 73 70	51 59 53 57 56	77 63 70 80 63	45 53 51 53 58	75 74 77 69 80	52 50 55 56 55	78 80 75 70	47 54 49 53 61	78 67 70 78 70	48 52 46 54 54	79 80 74 78 75	45 53 55 55 57	70 68 72 75 65	54 50 52 51 51	76 71 70 77 73	53 58 55 56 56 58	74 68 71 73 67	
	55 55 57 64 65	46 45 36 28 30	65 56 55 64 70	50 45 38 33 45	73 71 57 67 79	52 53 43 30 37	72 57 58 69 68	46 51 35 31 35	64 52 54 64 62	48 49 36 34 38	73 88 85 63 71	52 62 47 38 43	67 71 55 62 76	53 54 41 35 43	81 84 77 69 70	52 58 54 35 34	91 67 70 77	45 32 33	71 77 56 67 80	51 48 39 32 40	85 91 67 66 71	55 55 50 37 39	67 88 77 60 59	50 56 46 40 40	78 87 76 64 73	57 60 48 40 40	69 82 73 65 70	
**	53 62 68 73 79	35 25 29 33 38	53 61 67 71 77	36 34 39 41 51	50 60 70 75 74	46 22 32 34 40	53 65 71 68 83	40 29 41 35 42	51 66 62 80 82	32 30 38 40 49	68 62 66 73 71	52 36 49 46 56	53 60 67 72 71	42 31 40 38 50	71 65 70 77 69	50 45 40 42 50	64 62 68 76 62	50 33 39 38 54	61 63 70 75 68	38 27 46 56 58	68 64 65 71 66	43 40 40 40 41	68 68 76 77 75	45 45 45 43 52	62 63 65 73 68	49 41 52 44 51	66 63 69 74 71	
	88 74 75 78 81	47 55 40 43 45	72 70 67 76 79	53 41 38 52 49	90 84 73 80 88	53 55 42 49 40	92 75 83 81 84	46 56 40 50 50	62 62 68 70 79	48 50 48 46 49	62 86 77 80 83	57 57 50 49 53	75 73 67 75 78	57 57 40 53 48	72 89 75 80 84	52 57 56 55 48	72 81 77 86 90	53 55 58 53 46	75 80 70 78 83	56 53 44 51 49	77 90 76 88 85	56 56 60 52 47	76 80 78 76 75	55 50 54 48 35	68 90 72 87 87	56 61 57 58 53	68 79 69 75 76	
	75 52 51 60 52	45 46 37 36 38	74 61 51 58 46	39 42 38 39 40	87 66 53 69 47	45 47 42 35 38	79 53 54 60 48	40 42 40 42 42 42	72 50 52 53 46	32 50 33 30 32	80 75 60 61 61	54 55 44 42 47	75 57 55 62 52	41 54 43 34 36	82 67 61 52 69	50 50 30 44 38	83 74 59 74 57	46 55 48 42 55	83 70 56 67 54	44 47 39 34 44	84 72 58 66 72	48 52 54 46 42	76 70 60 62 64	42 48 39 39 50	82 66 58 62 70	52 58 49 43 42	74 63 55 54 51	
	59 71 85 71 67	24 27 30 43 41	54 70 80 77 68	32 40 45 48 43	55 55 84 79	40 30 33 44 44	62 76 88 81 70	26 36 45 48 52	60 62 74 62 76	32 33 34 46 44	49 64 73 76 78	43 38 46 54 55	52 70 75 72 70	42 32 40 43 43	59 65 75 74 84	46 36 42 45 54	50 75 82 81 83	45 33 37 53 51	52 72 77 79 76	36 34 37 54 46	51 68 80 78 85	48 35 36 43 51	56 64 78 80 79	45 45 33 50 56	56 65 77 76 84	45 45 44 51 57	48 67 74 75 74	
	66.4	38.3	65, 8	43.1	70.6	43.0	68.9	42.0	62.9	41.0	71.6	50.0	67.2	45.0	73.2	48.4	73.8b	47. 1b	70.8	44.6	74.3	47.7	71.3	47.0	72.5	51.1	68. 6	
-							Wisco	onsin.													Iov	ra.						
	Desce	Lenavada.		rau Claire.		La Crosse.		Madison.		Mauston.		Spooner.		Wausaw.		Aigona.		Cedar Kapada, 99		Charles City.		Davenport.		Des Moines.		Dapadae.		Keokuk.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	A
	68 72 75 67 84	55 45 67 57 60	73 71 71 70 68	51 50 57 50 54	74 75 70 73 76	52 52 54 53 56	68 75 72 68 75	53 49 56 56 56 62	70 74 69 70 70	49 44 62 50 55	72 63 68 73 67	48 52 52 48 52	72 71 72 67 67	49 45 56 46 46	75 78 73 79 79	50 57 56 57 63	74 79 78 75 86	55 53 54 64 56	73 72 72 72 71 81	54 53 56 57 60	74 80 76 75 81	57 52 65 68 68	71 80 75 73 81	55 56 64 62 62	72 76 75 71 84	58 52 64 62 67	70 77 75 83 77	
	77 82 82 66 70	61 53 65 44 35	77 78 77 66 70	57 54 62 40 36	78 84 74 65 70	56 58 52 44 40	75 81 75 61 67	61 59 55 47 45	73 82 74 60 66	56 51 · 58 43 39	68 81 67 63 69	55 60 47 35 40	69 80 78 62 67	49 49 60 40 36	82 85 75 63 72	51 60 55 38 38	85 86 76 65 72	58 59 61 47 42	81 84 70 64 71	54 56 60 40 39	82 81 80 66 70	62 62 58 50 46	85 84 73 66 73	57 60 56 46 42	81 83 76 64 68	59 59 58 47 41	84 79 87 73 70	
	72 75	51 49 44 42 39	66 59 64 74 73	52 45 50 42 42	78 63 60 72 73	53 48 49 43 44	79 64 58 69 71	50 49 48 48 53	79 71 67 69 70	49 49 46 41 41	58 59 64 71 71	51 42 46 41 46	73 60 64 70 72	49 43 46 40 40	75 65 64 70 60	54 45 46 44 54	87 61 63 71 70	42 58 52 52 53	80 66 61 70 67	54 52 48 43 50	84 76 70 69 70	55 54 51 52 55	87 62 66 69 60	56 54 54 53 54	83 66 63 70 70	54 53 49 51 49	84 74 63 70 67	
	78 67 74 79	47 57 55 55 54	65 86 78 74 83	53 60 60 54 47	68 83 69 67 80	53 62 57 54 52	71 79 71 69 73	49 60 54 54 59	65 78 75 69 75	45 90 57 52 51	62 83 66 78 81	53 56 48 45 52	68 77 77 70 78	48 60 55 50 46	75 86 76 79 79	55 61 62 60 49	71 85 85 75 78	52 53 51 59 59	71 86 70 79 79	52 58 59 57 50	74 83 84 71 80	54 64 61 60 59	69 86 87 80 80	54 61 65 62 59	68 82 73 70 77	52 62 59 57 56	74 83 91 80 84	
	67 67 67	49 47 53 53 51	78 68 63 56 68	45 47 51 43 41	78 71 62 55 69	49 50 49 45 44	73 74 64 61 65	52 50 50 52 50	73 72 65 55 66	44 41 53 44 45	74 61 67 58 60	41 41 46 40 37	76 72 68 58 65	42 45 48 43 43	80 68 62 60 66	49 55 49 46 44	82 77 64 57 68	54 53 54 51 44	79 70 62 54 65	50 51 50 45 41	78 82 67 68 68	56 52 57 53 50	83 72 63 61 72	54 56 53 50 49	77 75 64 57 67	53 52 52 49 47	85 82 75 69 72	
	66 74	42 43 35 41 50	64 63 75 75 83	51 45 37 47 53	56 64 72 74 84	48 45 40 45 56	59 61 69 71 78	49 45 46 48 56	57 60 70 72 78	43 45 37 43 54	54 60 72 74 79	37 45 40 50 59	64 64 71 74 78	42 45 35 47 52	61 68 74 72 84	48 35 43 46 56	60 65 74 73 83	44 43 43 44 47	55 67 74 72 83	43 39 39 46 55	67 65 72 73 82	52 45 47 50 60	61 69 74 76 88	50 38 45 48 62	60 64 73 71 82	50 44 44 47 59	69 66 72 75 86	
																	74.4										76.5	

Table 3 -Maximum and minimum temperatures at selected stations, September, 1910. District No. 5-Continued.

											*	Illi	nois.							
Date.		Hannibal, Mo.		Laporte, Ind.		Cairo.		Greenville.		La Salle.		Monmouth.		Mt. Vernon.#		Peorla.		Springfield.		Winnebago.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min
1 2 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	77 77 82	60 62 60 67 67	72 75 82 80 81	58 60 62 63 64	82 82 83 88 88	70 69 67 73 69	82 82 74 75 86	63 62 65 65 70	73 80 83 78 82	54 49 06 69 70	76 81 84	55 51 51	86 89 80 82 90	64 64 65 64 61	70 80 80 79 80	56 53 62 67 69	74 79 78 79 81	61 59 62 67 71	71 80 80 72 82	55 47 65 64 64
6	76 86 67	62 66 64 54 46	83 82 88 76 70	62 55 61 55 40	83 90 91 75 76	69 73 71 62 57	79 86 89 75 74	68 68 57 49	81 82 77 66 71	64 59 62 50 43	*****	59 60	1949	68 68 68 63 50	83 82 86 67 71	63 58 62 49 41	82 80 89 68 72	67 68 67 53 47	80 83 80 64 70	62 64 61 44 38
11	66 70	56 59 55 56 54	78 69 62 72 67	43 57 56 43 50	87 90 83 74 75	61 71 69 62 58	84 . 87 76 75 67	55 67 62 56 51	82 75 68 69 71	53 53 52 51 46		48	84 90 82 74 75	52 61 59 57 56	83 74 67 70 72	53 55 53 49 47	82 86 66 71 68	54 62 57 54 52	80 75 68 71 75	44 53 49 46 46
16	88	56 55 63 63 59	75 75 75 68 73	45 46 42 60 53	80 84 85 86 90	56 57 61 65 67	79 83 86 83 82	53 55 61 67 62	77 81 79 70 79	47 58 61 60 57	83	48 51 51 59 55	80 84 88 85 84	52 56 62 68 63	79 83 91 75 85	48 56 62 60 56	77 82 88 83 84	53 54 64 66 59	79 81 72 72 72 80	46 59 58 56 52
21	73 70	53 57 67 57 55	71 73 65 69 62	49 48 55 55 50	83 85 87 83 77	66 63 65 68 65	83 83 74 72 74	59 57 65 62 54	76 81 70 70 63	53 53 58 56 49	82 85 72 68 74	51 51 60 53 47	84 85 82 74 73	62 58 58 63 60	83 84 71 69 70	49 54 62 56 51	83 81 72 72 72 69	58 55 66 57 54	75 80 70 66 62	56 49 52 52 52 50
26 27 28 38 39 99 100	65 70 75 86	51 45 42 45 60	66 68 70 78	47 42 44 42 45	86 70 75 78 83	64 59 56 58 61	73 68 72 78 81	61 52 48 51 55	72 65 72 74 82	49 47 41 48 56	71 68 77 77 77 85	53 43 42 44 51	79 68 74 79 82	60 57 43 47 50	72 65 73 75 83	52 43 39 42 54	73 65 69 74 82	57 48 45 49 56	65 65 74 74 80	43 42 38 43 51
Means		57.2	73.0	51.7	82.6	64.4	78.5	50.6	75.0	54.5		52.14	81.6	59.3	76.7	54.0	77.0	58.1	74.2	51.6

Climatological Data for September, 1910. DISTRICT No. 6, MISSOURI VALLEY.

MONTROSE W. HAYES, District Editor.

GENERAL SUMMARY.

There was considerably less sunshine than is usual in September, and the amount of precipitation in most of the district was greater than is customary. There was, though, no especial consonance between the amounts of cloudiness and precipitation, for in some sections of the district there was 10 to 14 per cent less sunshine than is normal, yet the precipitation was below the normal also. The lack of bright sunshine, however, had a noticeable effect on the day temperatures; while there were a few clear days on which high readings were registered, the daily maximum temperatures through most of the month were lower than they usually are in September. The temperatures were very seasonable to the east of, or below, the 3,000-foot contour; at a greater elevation than 3,000 feet they did not approximate the normal so closely, being deficient in Montana and northern Wyoming, while in southern Wyoming and in northeastern Colorado they were higher than they are in the average September. The conditions generally were favorable for farming operations and for such crops as had not been harvested. In the areas that had killing frosts vegetation was sufficiently advanced to preclude any injurious effects. In the grazing sections the rains were abundant enough to replenish the water holes and to partially revive pasturage; on account of the growing season being practically at an end no material progress could be made by grass. Work on the government irrigation plants in Montana was interfered with by the showers. There were no extensive prairie fires, but in South Dakota there were some that were local in character.

TEMPERATURE

In the country comprising southern North Dakota, South Dakota, the eastern half of Kansas and Nebraska, and all that portion of Missouri and Iowa drained by the Missouri River, the mean temperature for the month closely approached the normal; the departures at the individual stations were in most cases only a few tenths of a degree above or below the normal. Over the headwaters of the Kansas, South Platte, North Platte, and Cheyenne rivers the average daily excess for the month was 1° to 3°. In all of the drainage area of the Yellowstone River, and over the watershed of the Missouri as far east as the junction of the Little Missouri (in northwestern North Dakota), there was a deficiency that amounted to a daily average of about 2°. There was an absence of temperature fluctuations that in any way approached the excessive; the changes from warm to cool, and from cool to warm were quite gradual. From the 15th to the 19th the country to the east of the Mississippi River was covered by high atmospheric pressure, and in the territory between the Mississippi River and the Rocky Mountains the pressure was low. This arrangement of the barometric areas gave the warmest weather of the month but the maximum thermometer readings were no higher than they are in almost

every September. There was a well-marked period of cool weather that accompanied a wave of high pressure that moved in a northwest to southeast direction along the eastern slope of the Rocky Mountains from the 25th to the 28th. On the 26th and 27th the lowest temperatures of the month were registered in all the district, except the southwest portion, or the upper watershed of the North and South Platte rivers, but there were no readings that were in any way unusual; in fact, they were very moderate for September.

PRECIPITATION.

There was a very considerable excess in the precipitation over the lower Missouri Valley, or below the mouth of the Platte River. It was caused principally by two storms that crossed the eastern portion of the district. The first prevailed on the 4th and 5th, and the second on the 25th and 26th. The amount of rain from the first storm was particularly heavy in Missouri, and the section director at Columbia made the following report in regard to it:

During the first week the rains were practically continuous over a large area, especially that part of the State lying between the Missouri and the Osage rivers. At Columbia 5.40 inches of rain fell during the first 5 days; this amount has been exceeded during the month of September but once in the last 21 years, which was during a 5-day period (14th to 18th) in 1905, when 9.55 inches fell. Some of the creeks overflowed, but there was very little damage.

The greatest amount of rain for the entire month was 11.32 inches at Fulton, Mo. In the remainder of the district there were frequent rains until the 25th or 26th, but there was no great excess in the amount of precipitation, except in the Black Hills country and in the southern two-thirds of Montana. The section director at Helena reported that:

The storms that passed over the State were not very pronounced, hence the wet periods were, as a rule, not well defined, but the average precipitation was the greatest for September during the last 16 years. The wettest previous to this was September, 1909, and the driest of the period was September, 1902.

There was some snow in Colorado, Wyoming, the Dakotas, and Montana. The heaviest fall for the month was 25.1 inches at Babb, a station in Montana very near the Canadian border, and just to the east of the Continental Divide.

RIVERS.

At the beginning of the month the Missouri River and all of its tributaries were at a low stage, but an examination of the records shows that, despite the popular opinion to the contrary, lower stages have been recorded frequently in September, and that the amount of water in the streams, instead of being so abnormally low, was quite seasonable. On the 4th a rise began in the lower river; it was of minor importance, however, and its crest passed into the Mississippi on the 8th. From the 10th until the end of the month the stages were very uniform in the main stream.

TABLE 1.—Climatological data for September, 1910. District No. 6, Missouri Valley.

		1	yrs.	Ten	perature	, in d	legre	es Fal	hreni	heit.	Pr	ecipitati	on, in	nches.	lays,		Sky	r.	ig.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily	Total.	Departure from the normal.	Greatest in 24	Total snowfall unmelted.	Number of rainy d	Number of	Number of part-	Number of	Prevailing wind	Observers.
Wyoming. Barnum		5, 500												0.0	2	21	5		w.	Thomas Freegaurd.
Basin	. Carbon		. 2								1.90			0.0	5	21	5	4	w.	Chas. C. Young.
Big Creek Station Burns	. Laramie		. i			*****														U. S. Forest Service. Henry D. Colburn. U. S. Weather Bureau.
Cheyenne Chugwater	do	6, 088 5, 282	39	59.4 59.0		84 85	10	33 23	26	41	1.80	+ 0.8	6 0.60 2 0.70					5 7	W.	U. S. Weather Bureau.
Clark	. Big Horn	4, 320	4	58.2		90		30		36			0.04		5	15	4	11	n.	George Milne. Chas. A. C. Snow.
Cody Crystal Lake	. Laramie	6,900	1	******															*****	F. A. Fish. Cheyenne City Engineer
Dome Lake		4, 793	1	58.3	*******	90	16	19	25	47	0, 80		0.39	0.0	6					. Chas. Hidlay. Henry C. Miller.
Dubois	. Fremont	6, 909		52.4 57.5		83	20 15	21 25	9 26	59 40	0.73		. 0.38	4.0					w.	Chas. Hidlay. Henry C. Miller. Dr. F. H. Welty. F. A. Eaton.
Eaton's Ranch	. Crook	4, 200	1	01.0						1	3.00		. 1.50		. 4	20	3	7	n.	M. R. Hunter.
Elk Mountain	Carbondo	7, 322	1	58.3	*******	AND.	91	24	26	41	1.84			0.0	6				sw.	Wm. Richardson. U.S. Forest Service.
rvay	Natrona	*** *****	. 1	55.2 62.3	+ 2.2	85	18 16	26	26	42 55	2.16		. 1.27	0.0	9		6	7 3	sw.	Frank Jameson. John Hunton.
ort Laramie ox Creek Station	Albany	9,015		47.4		98 74	101		26 27 26	53	3.02		. 0.92	0.0		8	19	3	W.	U.S. Forest Service.
Illette	Crook	8,000	1	47.0	*******	93 75	16	29 16	26 26 26	44	1.88			T. 5.0	6 7	19	3	8 7	w.	S. D. Perry. U. S. Forest Service.
fyattville	Big Horn	4,632	11	58.1	- 0.9	86	15†	32	26	48	1.71			0.0	8	15	8	7	w. nw.	Wm. Booth. P. L. Ford.
Cirtley	do	3,000	6	58.5	+ 0.2	90 68	16	22 21	26	48	1.27	+ 0.00	0.68	0.0	6	20	3	7	sw.	D. M. Zum Brunnen.
Cirwin	Crook		1	45.2	*******		9	21	2	38	1.08		0.40	10.8	10		***	***	w.	C. L. Tewksbury. G. A. Knowles.
ander	Fremont	5,372	18	57.0 55.8	+ 1.8 + 2.2	84 80	17 16†	25 25	26	44	1.21	+ 0.19	1.20	T. 0.0	9	15	11 6	5	sw.	U.S. Weather Bureau. University of Wyoming.
eoolobama Ranch	do	6,878	9	54.1	+ 1.0	81	91	25 19	26	52	0.39	- 0.52	0, 39	0.0	2	1			W.	C. A. Cowdin.
olobama Ranch ovell	Big Horn		5	47.5 57.0	- 1.6 - 0.7	81 76 87	16 16	20 25	261	49	0.30	- 0.45	0, 20	0.0 T.	4	20	15	6 7	w.	Mary E. Painter. R. Fred Harrison.
uok	Converse	8,007	20	38.4	+ 1.6	88	15	25	26	45	2.05 3.18		2.00	0.0 T.	9	22	3		w.	D. E. Goddard: C. A. Sherman.
ooreroft	Crook	4, 111	7	59.8	+ 1.0	96	16	25	26	49	3.60	+ 1.96	3.00	0.0	5	17	4	9	nw.	James K. Somers.
ooreewcastle		4,319	9	61.2 59.7	+ 4.7	88 90	16	31 25 23	26 27 26 26	38	1.75 0.48	+ 0.12	0.65	0.0	13	23	6	··i	W.	Edwin Moore. Dr. S. W. Johnson.
athfinder	Natrona	5, 735	4	60.2	+ 1.1	85	16†	23 35	26	38 45	0.27	- 0.63		0.0	3	25	3	2	sw.	U.S. Reclamation Service
hillipaowell	Big Horn	4,376	7 3	57.2	*******	86	16	24 25	26	45	0.75	******	0.47	0.0	3	20	7	3	nw.	U.S. Reclamation Service
awlins	Carbon	6,748	8	58.2	+ 3.7	81	9	25	26	46	1.34	+ 0.36	0.40	0.0	10	17	7	6	w.	E. J. Ehrenfeld
aratoga	Carbon	6, 785	12	58.0	+ 3.6	84	9†	22	26	50	1.42	+ 0.48	0.27	0.0	9	21	2	6	e.	J. F. Nelson, jr. Saratoga & Enc'pm'nt F U.S. Weather Bureau.
heridanhoshone Dam			15	55.4 59.7	- 1.3	87 88	16 15	24 28	26 26	46	1.79 0.45	+ 0.63	0.54	2.0 T.	7 2	10	7	13	nw.	U.S. Weather Bureau. U.S. Reclamation Service
oldiers' Home	Johnson	4, 635	18	58.2 48.4	+ 0.1	86 75	16 19	35 16	25† 26	38 53	1.70			3.0	7	15	16 12	5 3	nw. sw.	Geo. L. Courtney
outh Pass Cityhermopolis	do	4, 350	6	59.8		91	15†	25	26	52	1.04			T.	9	18	7	5	SW.	John Sherlock. A. L. Duhig. C. E. McPherren.
ptonalley		6,500	1	******	******						*****	******		*****			****		******	C. E. McPherren. Jas. L. McLaughlin.
erona	Sheridan		1								2.18			3.0	6	5	19	6	80.	O. A. Roode.
iant's Ranchiley	Big Horn	5, 375	1								2.39	******		0.0	9	10	9	11	SW.	Ira G. Wiant. C. D. Marshall.
yncoteellowstone Park	Vellowstone Park	6, 200	3 22	61. 9 50. 3	- 3.1	94 78	16	26 25	26	54 48	1.97 0.78	- 0.23	0,89	0.0	7	20	18	5	e. sw.	U.S. Reclamation Service U.S. Weather Bureau.
(1) Fountain Hotel	do	7, 220	4	49.2	******	82	15†	15	26 26	50	1.44		0.69	0.0	4	21	0	9	8.	U.S. Army.
	do		8	47.0		76 72	9 20	19	26	45	1.20			T. 1.0	5 6	13 14	0	17 12	nw.	Do. Do.
(4) Norris	do	6,500	6	46.4		79 80	19	19	28†	55	0.68			0.0	2	17 15	0 7	13	w. w.	Do. Do.
(6) Soda Butte	do	7,000	5	49.2		79	91	13	26	52	0,60		0.20	0.0	5	19	10	1	sw.	Do.
(7) Sylvan Pass	do	7,772	4			79 76	19	18 16 17	26 26 26 26	48	1.07		0.70	0.0	5 5	18	:	8	w. sw.	Do. Do.
(9) Tower Falls	do	6.250	1	52.2		81 80	9† 28	17 20	26 26	59 55	0.34		0.12	T. T.	- 3	18 15 13 16	17	0 14	ne.	Do. Do.
(10) Upper Gey. Basin . Montana.			6		*******							******	1						80.	
damsdel	Dawson	5, 200	11	56.2	0.0	92 84	16	26 29	26	41	0.41	+ 2.41	0.16	6.0	13	16 12	7 3	7 15	sw.	W. B. Ennis. Bessie F. Burch.
gricultural College	Gallatin	4,700	12	50.8	- 2.3	81 80	15 15†	27 17	26 24	36 51	3.51	+ 2.41 + 1.82 + 1.50	0.77		9	9	13	8 7	50.	E. Burke.
agusta	Teton	4, 461	12		- 2.8	83	19	16	25	49	4.32	+ 1.50	1.30	25. 1	7	16	7		W.	C. C. Covington. U. S. Reclamation Service
ald Butte	Sweeterne	4 079	1 5	******	******	81	15†	23	26	44	2.86 3.26		0.71	9.5 8.0	9 8	9	10	11	w.	Matt W. Alderson. F. A. Severance.
g Timber Creek	do				******						3.55	*******	0.68	11.4	16	7	14	9	w.	J. T. Mjolsness.
llings§§oulder Nursery	Yellowstone	3, 115	15	57.0 49.3k	- 3.1	92 81	16	21 26	26	48 44k	1.85	+0.97 +2.86	0.60 1.24	T.	6	5h	106	76		U. S. Weather Bureau. U. S. Forest Service.
wen	Beaverhead	6,060	4			. 81	19	12 27	111	57	1.08		0.38	0.0	9	11	15	4		B. R. Lawrence.
idger oadview Exp. Station	Yellowstone		4	53.8		89 87	16 16†	24	9	52 51	2, 20 2, 98		1.00 0.85	0.0 T.	6 7	14	16 12	10 4 7	B. 8.	L. E. Gard. Dr. W. X. Sudduth. C. A. Linscheid.
isby	Rosebud		5 2	57.0		88	15†	19	26 26	52 45	3.56		1.41 0.92	12.0 10.0	8	14	10	7 10	ne. w.	C. A. Linscheid. Thos. H. Busteed.
bin Creek	Beaverhead											******		*****						W. J. Crowell.
inyon Ferry	Lewis & Clark	3, 361	12 5	56.0	- 0.9	85	15† 16	29 31	26 9	40		+ 0.57	1.01	0.5	11	12	13	11	nw. sw.	A. C. Pratt. E. E. James.
scade essman Reservoir ester	Lewis & Clark	5, 275	2	45.8	******	72	19	21	25	34	3.62		0.98	*****	9	17	3	10	nw.	Chas. D. Schmidt.
inook	do	2,502	10 .	*****	******							*******	*****	******					*****	Great Nor. Exp. Station. Thos. O'Hanlon Co.
outeauear Creek	Teton	3, 810	6 .	*****				*****				******	*****							Henry Davidson. Cortez Sedgwick.
emonsyde Park	Chouteau Lewis & Clark	4,672	1 .		*******						4.23	******	1.72	8.5	15	10	8 7	12	W.	Frank Eberl.
yde Park	Meagher								****		2.53	******	1.00	6.9	11	18 12	8		w. w.	L. B. Marquis, M.D. Orville Harris.
ow Agency	Rosebud	3,041	28	58.5	- 0.2	86	16	15		57	1.67	+ 0.74	0.91	4.0	5	23	8	7	DW.	F. E. Server. G. H. Coulter.
albertson	Teton	3,700	12	51.2		85	18	19	24	46	0.87	- 0.88	0.45	2.5	3	23	3		w.	Chas. N. Thomas.
nakas	Rosebud	3,400	6 .																	Adam Anderson. T. L. Holliday.

Table 1.—Climatological data for September, 1910. District No. 6—Continued.

			ya.	Tem	perature	, in de	grees	Fahr	enhe	át.	Prec	ipitation	, in ir	ches.	days,		Sky.		Hon.	
Stations.	Counties,	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind direction	Observers.
Montana-Cont'd.	Fergus		2	54.0		83	15	29	26	390	1.74		0.66	0.5	7	5	10	15	nw.	P. T. Griesenauer.
Dillon	. Beaverhead	8 000	13	55.0	+ 1.3	82	5†	27	25	48	3.21 2.83	+ 1.60	0.72 0.92	6.0 12.5	8	13	12 6	5	sw. w.	J. E. Monroe. Lewis Cameron.
Dry Creek. Dry Wolf Camp	. Broadwater	6,000	1	******							5.04	*******	1.52	8.0	11	12	14	4	nw.	J. C. Stuart. Mrs. R. J. Eveleth.
			10	58.4	- 1.5	89	16	28	26	40	3.33	*******	0.70 1.63 1.25	7.0 T. 6.4	11 11 10	15 16 16	6 2	9 8 12	w. w.	John Eberhart. Wm. Freese. James Heagan.
Elkhorn Evans Fallon	Cascade	4,900	3 6	57.3		94	16	25	26	49	0.54	*******	0. 19	0.0	5	16		8	w.	H. Thrasher. Mrs. A. C. Gifford.
Family Fish Creek Fish Tail Creek	Teton	3,950 8,500	1	51.6 44.3		94 84 70	19	19 18	25 25	41	1.57		0.60	2.0	11 8	7	12	11	w.	U.S. Reclamation Service. O.B. Tilton.
Flathead Creek	Gallatin	6,000	1		******	*****					4.79		0.97	13.0	12	10	6		86.	O. E. Haskin. L. G. Brown.
Fort Benton	. Chouteau	2,630	30 22	59. 2 53. 0 55. 4	- 4.0 - 0.2	92 84 84	15† 17 15	27 30 23	26 26 25		1.96	+ 0.95	1. 25 0. 65	T.	1	12° 14 15	13	9° 3	е.	J. M. Patterson, jr. Jere Sullivan.
Fort Shaw Fort W. H. Harrison § Foster	Cascade	4,004	6	52.9		80	15†	20	1		2.84	+ 1.97	1.48			16	4	10	w.	U.S. Reclamation Service. Post Hospital. E.K. Bowman.
Garneil	Fergus	5,500	20								0, 36	- 0.74	0. 26		2					Thos. E. Scally. W. B. Walker.
Goldbutte	Chouteau		3	52.0 58.0		85 92	19 16	17 28	25 26	38 48	0.78 1.86		0. 26 0. 63	0.8	6 8	11	14 5	11	n. nw.	J. T. Berthelote. J. S. Rue.
GraylingGreat Falls	. Cascade	3, 350	19	47.41 55.7	- 1.3	79 80	19 15†	12 30	26 26 25	55 i 37	3.35	+ 2.15	1.02	1.5	8	8	13	9	sw. n.	P. Kerzenmacher. S. H. Bauman.
Half Moon Pass Half Way House	Broadwater	6,000	1	*****							5.50	*******	1.30	7.0 8.0	12	19	20	8	w. sw.	Thos. Stigen. Gordon Deans.
Harlowton Havre Helena	Chouteau	2,505	30 30	51.2° 54.8 52.2		84 87 80	19 19 16	28 28 30	12 26		4.01 0.48 1.77	- 0.55 + 0.71	0.70 0.22 0.39	0.0	6 11	5° 10 6	9 9	16° 11 15	w. sw.	Joseph Muir. U. S. Weather Bureau. Do.
Highwood	Chouteau		3 5								4.35	1 0.11	1.05	2.0	117	13 13	5 13	12	sw. w.	W. S. McCord. H. L. Miller.
Huntley Jones Canyon	Yellowstone	3,014	4	58.2		90	15†	21	26	44	2.73		1.35	7.0	6 12	10	16	4	ne. e.	U. S. Reclamation Service. Jas. McCune.
Jordon Lewistown	Pergus	4,010	13										*****							W. C. Henderson. W. W. Watson.
Livingston	Chouteau		13	55. 8 55. 8	- 1.7	86 88	15 19	27 30	26 26	49	2.76 3.40	+ 1.22	1. 19 1. 20	7.0	16 10	14	5		aw. w.	Lewis Terwilliger. E. Wilson.
Lost Horse Creek	Valley	2, 240	3	55.9	*******	89	15	24	12	46	3.46 0.27		1. 01 0. 10	17.3	13 5	13 17	10	6 3	w. nw.	C. M. Mason. U. S. Reclamation Service.
Melstone	Fergus	2,903	1								3.12		0.82	0.0	7	12	14		nw.	F. E. Parent. E. J. Parkinson. Leon B. Clarke.
Mildred	do	2,371	19	59.2	- 2.0	94	16	31	26	41		+ 1.02	0.67	0.0	8 6	14	14 7 14	9 8	ne. w.	U. S. Weather Bureau. Clyde Grove.
Norris	Madison	4,845	4 2	49.2		80	15	25	25†	42	2.06 4.98		0.57	4.0	12 15	8 7 15	8	15	n. e.	Madison River Power Co. F. L. Bryant.
Nye Olsen Creek Pipestone Pass	Jeffersondo	6,345 7,000	1 1								4.50 3.52		2.00 1.11	2.9 12.0	11 7	15	8 16	7 9	w. ne.	Robt. Olsen. Mrs. Theola Kiermeyer.
Poplar	Valley	4, 260	25 5	56.6	- 2.7	92	16	26	13	52	0.38	- 0.45	0.23	*****	2	22	4	4	n.	H. M. Cozier. W. H. Campbell.
Red Lodge	Carbon	5,000	10			******										****				I. A. Draper. Henry Cramer.
Renova Rimini Ryegate	Lewis & Clark	7,900	11 . 2	53.7	- 2.0	87	15	26	26	50		+ 1.78	1.00	4.0	10	13	7	9	sw.	F. B. Elmer. Milo Brooks. H. W. Scherfenberg.
Sedan Springbrook	Gallatin	3, 155	2 9	54.6		68	18	21	12	58	0.32	*******		0,0	2	12	12		sw.	Asa Hennes. Mrs. H. L. Miller. J. W. Hardgrove.
Stearns Chree Forks	Lewis & Clark Gallatin	. 4,500	1	0.000							4.33		0.96	5.0	9	13		12	****	A. A. Adams
Toknaj ji	Dawson Broadwater	2,050	5	57.5ª		95	16	28	12†	474			1.87	*****	5	15°	4.			U.S. Reclamation Service. River Observer.
Trail Creek	Park Fergus	5,000	16			*****					3.38	+ 1.18	0.90	9.0 T.	10 9	13 15	5	10	w. w.	Andrew Wiedenbauer. P. W. Korell.
Valentine Virginia City Wall Rock Mour.tain	Madison	5,880	22	55. 2 51. 4	- 2.0	89 77	15 15†		12† 25		0. 67 1. 20	- 0.21	0.54	2.0	10	17	6	14	W. e.	B. M. Bean. Francis Mailand.
Warm Springs Creek Willow Creek	Madison	7.500	1	******					***		4.04 2.34		0.89	1.5 2.3	11 15	5	6	19	nw. sw.	D. L. Doig. M. D. Lytle.
Volf Creek	Park. Lewis & Clark Valley	4,000	5			85	15†	32	25	40	2.09 0.39		0. 73 0. 22	T.	8	16	2		nw.	John Topp. A. W. Verharen. River Observer.
North Dakota.	Jefferson	6, 376	1								3.49		1. 25	5.0	10	9	14	7	sw.	Anna Kinman.
Aplin Beach	OliverBillingsMcLean	2,759	3 3			90 96	16 16	28 27	12 13†	46° 46	0.66 0.54		0.26	0.0	6	16	13	1	n. s.	J. B. Hagelbarger. D. J. Steiner.
Serthold Agency	Burleigh,	1,0/4	13 35	55. 6 56. 3	- 2.4 - 0.8	93	16 20	20 31	12† 12	41	1.04 2.66	-0.22 + 1.47	0.49 1.58	0.0	7	14	8	11	n. nw.	C. L. Hall. U. S. Weather Bureau.
Broncho	MercerWilliams	1,944	2 4 13 17	56.7		88 89 97	21 16	25 24	28 12	45	0,03		0.65	0.0	3	22	0	8	w. sw.	E. M. Walker. G. O. Sanford.
Ooal Harbor. Dickinson Edgeley	McLeanStarkLamoure	2,453	13 17 8	56.0	- 0.8 - 0.5	87 92 84	16 16	20 31 25 24 27 28 27	12† 12 28 12 26 9 12	46	0. 10 0. 70 4. 19	$ \begin{array}{rrrr} -1.37 \\ -0.30 \\ +2.60 \end{array} $	0.10 0.21 1.26	0. 0 0. 0 0. 0	8 8 5	16 14	4	10	nw. nw.	F. H. Childs. L. R. Waldron. O. A. Thompson.
Sullerton	Williams. Dickey.		11	56.7	+ 0.5		20 20t		12		0.24	+ 2.17	0.08 1.54	0.0	5 6	16	8 13	6	n. s.	M. E. Ugan. F. O. Alin.
Hettinger	Bowman	2, 253	2 3	62.4	+ 0.3	83 95 93 °	16 16	28 34 26*	25	34 55°	3.52	T 24 14	0.98	T. 0.0	8 5	18	5	7	nw.	A. M. Cherchain. F. E. Ellickson.
amestown	Williams	. 2,275 . 1,390	3 22	51.8	- 3.2	94 76 83	16 18 17	18 30 26	26 12 12	53 35	0.38 2.79		0.30	0.0	3 6	6	12	8 15	sw.	C. P. Amshaugh.
amoine	Kidder	1,307	2 3	54.6		83	17			45	2.39 4.27		1.95	0.0	6	17	6	7	nw.	L. B. Baldwin. E. V. Virgin. E. O. Ellison.
dcHenry danfred farmarth	Eddy Wells	1,509	8	54.2		81 81	1	29 27	9 12		0.37 2.16		0. 20 2. 16	0.0	1	9		12	w. sw.	John Knox. P. B. Anderson. S. P. Grane.
ledora	Stutsman		2 13	52.3		84	29	20	12 30		1.56 2.97	- 0.64	0.82 1.85 0.12	2.0 0.0	8 3 1	16	4	***	se. e.	S. P. Grane. H. H. McCumber. J. W. Hesser.
Melville	Billings Foster Hettinger	. 1,590	12 3	57. 2 57. 0 55. 6	+ 1.4	84 99 85 88	17 4† 16	20 24 30 29	9† 8	43	0.12 2.64 3.80	+ 1.48	1. 66 1. 22	T. 0.0 0.0	4	13			nw. n.	J. P. Kidder. O. H. Opland.

Table 1.—Climatological data for September, 1910. District No. 6, Missouri Valley.

	15	1.0	L. yrs.	Tem	perature	, in d	едтес	s Fah	hrenh	eit.	Pre	cipitatio	on, in i	nehes.	day		Sky		tion.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily	Total.	Departure from the normal.	Greatest in 24 hours.	Total anowfall unmelted.	Number of rainy	Number of	Number of part-	Number of	Prevailing wind	Observers.
Wyoming.	Johnson	5, 500							-		0. 63		0.40	0.0	2	21	3	4	w.	Thomas Freegaurd.
Barnum	. Big Horn	. 3,862	11	******																O. J. Robertson.
Bennett Big Creek Station			2		*******						1.90	******	0.80	0.0	5	21	5	4	w.	Chas. C. Young. U.S. Forest Service.
Burns	. Laramie		30	59.4	+ 2.2		10	33	26	-	1.80		0,60	0.0	12	10	15	5		Henry D. Colburn. U. S. Weather Bureau.
Chugwater	do	. 5, 282	9	50.0	+ 1.5	85	6	23	26	49	1.71		0.70	0.0	7 5	10	10	7	W.	George Milne.
Clark	. Big Horn	. 4, 320	3	58.2		90	17	30	26	36	0.89		0.24	T.	5	15	4	11	n.	Chas. A. C. Snow. F. A. Fish.
Crystal Lake	. Laramie	. 6,900	1	******	*******	*****		****												Chevenne City Engines
Dome Lake		8,821		58.3		90	16	10	25	47	0.80		0.33	0.0	6			****		Chas. Hidlay. Henry C. Miller. Dr. F. H. Welty.
Dubois	. Fremont	. 6,909		52.4 57.5		83	20 15	21 25	9 26	59 40	0.73		0.38	4.0	2				w. n.	Dr. F. H. Welty. F. A. Eaton.
Eaton's Ranch Echeta	. Crook	. 4, 200		01.0	*******	*****	10			***	3.00	******	1.50		1	20	3	7	n.	M. R. Hunter.
Elk Mountain Encampment	. Carbon		. 5	58.3		78	91	24	26	41	1.84	1	0.84	0.0	6				aw.	Wm. Richardson. U. S. Forest Service.
PVBY	Natrona		. 1	55.2		85	18	26	26	42	2.16		1.27	0.0	9	17	6	7	SW.	Frank Jameson.
Fort Laramie	Albany			62.3 47.4	+ 2.2	98 74	16 10†	25 11	26 27	55	1.39	+ 0.42	1.02	0.0	7 15	13	14	3	ne. w.	John Hunton. U. S. Forest Service.
illette Iunters' Station		. 4,546	1	47.0	*******	93 75	16	29 16	26 26	46	1.88		0.79	T. 5.0	6 7	19	3	8	w.	S. D. Perry. U. S. Forest Service.
funters' Station	Big Horn	4,632	11	58.1	- 0.9	86	15†	32	26	48						15	8	7	w.	Wm. Booth.
ireh	Conversedo		6	58.5	+ 0.2	90	16	22	26	48	1.71	+ 0.00	0.86	0.0	8	16 20	3	10	nw.	P. L. Ford. D. M. Zum Brunnen.
Cirtley	Big Horn	. 9, 187	2	45.2		68	9	21	2	38	1.08		0.40	10.8	4			233	w.	C. L. Tewksbury.
Ander	Fremont	5,372	18	57.0	+ 1.8	84	17	25	26	44	1.21	+ 0.19	1.27	1.5 T.	10	15	11	4	sw.	G. A. Knowles. U. S. Weather Bureau.
aramie	Albany	. 7, 188	19	55.8	+ 2.2	84 80	16†	25	261	49	1.11	+ 0.13	0.40	0.0	9	19	6	5	sw.	University of Wyoming
eoolobama Ranch	Big Horn	. 6,878 . 7,052	6	54.1 47.5	$+1.0 \\ -1.6$	81 76	16	19 20	26	52 49	0.30	- 0.52 - 0.45	0.39	0.0	2 2	9	15	6	W.	C. A. Cowdin. Mary E. Painter.
ovell	do	. 3,825	5	57.0	- 0.7	87 88	16	25 25	261	56	0.92		0.40	T.	4	20	3	7	n.	R. Fred Harrison.
usk	Converse do		20	58.4	+ 1.6	88	15		26	45	2.05 3.18	+ 1.26	2.00 1.46	0.0 T.	9	22	3	5	w.	D. E. Goddard. C. A. Sherman.
loorcroft		4, 111	7 9	59.8 61.2	+ 1.0	96 88	16 16	25 31	26	49	3.60 1.75	+ 1.96 + 0.12	3.00 0.65	0.0	13	17	4	9	nw.	James K. Somers. Edwin Moore.
loore	Weston	4,319	3	89.7		90	13	25	27	38	0.48		0, 21	0.0	3	23	6	1	w. nw.	Dr. S. W. Johnson.
athfinder	Natrona Laramie	5,735	4 7	60.2	+ 1.1	85	161	23 35	26 27 26 26 26 26 26	45	0.27	- 0.63	0.14	0.0	4	25	3	2	sw.	U.S. Reclamation Servi Mrs. Arthur Rugg.
owell	Big Horn	. 4,376	3	57.2		86	16	24	26	45	0.75		0.47	0.0	3	20	7	3	nw.	U.S. Reclamation Servi
lawlins	Fremont		8	58.2	+ 3.7	81	9	25	26	46	1.34	+ 0.36	0.40	0.0	10	17	7	6	w.	E. J. Ehrenfeld. J. F. Nelson, jr.
aratoga	Carbon	. 6,785	12	58. 0 55. 4	+ 3.6	84 87	9† 16	22 24	26 26	50 46	1.42	+ 0.48	0.27	0.0 2.0	9 7	21 10	3 7	13	e. nw.	J. F. Nelson, jr. Saratoga & Enc'pm'nt U. S. Weather Bureau.
heridan hoshone Dam	Sheridan Big Horn	. 5,385	4	59.7		88	15	28	26	45	0.45	+ 0,63	0.25	T.	2				w.	U. S. Reclamation Servi
oldiers' Homeouth Pass City	Johnson		18	58. 2 48. 4	+ 0.1	86 75	16 19	35 16	25† 26	38 53	1.70	+ 0.82	0.65	3.0	7	15	16 12	5 3	BW.	Geo. L. Courtney. John Sherlock.
hermopolis	do	4, 350	6	59.8		91	15†	25	26	52	1.04		0.55	T.	9	18	7	5	sw.	A. L. Duhig. C. E. McPherren.
ptonalley	WestonBig Horn		1		*****		****	*****	****		*****	*****		*****		****			******	Jas. L. McLaughlin.
erona	Sheridan		1								2.18		0.90	3.0	6	5	19	6	se.	O. A. Roode.
lant's Ranch	Carbon		1								2.39		0.54	0.0	9	10	9	11	sw.	Ira G. Wiant. C. D. Marshall.
yncoteellowstone Park	Laramie	4, 207	3 22	61.9	- 3.1	94	16 19	26 25	26 26	54 48	1.97 0.78	- 0.23	0, 89	0.0	7 10	20	6 18	5 9	e. sw.	U. S. Reclamation Servi U. S. Weather Bureau.
(1) Fountain Hotel	do	7, 220	4	40 0 1	- 0, 1	78 82	15†	15	26	50	1.44		0.69	0.0	4	21	0	9	8.	U.S. Army.
(2) Grand Canyon (3) Lake Hotel	do	7,900	3			76 72	20	19	26	45	1.20	*******	0.50	T. 1.0	6	13 14	0	17	nw.	Do. Do.
(4) Norris	do	7,525	6	46.4		72 79	19	19	28†	55	0.68		0.50	0.0	2	17	0 7	13	w.	Do.
(6) Soda Butte	do	7,000	5	49.4		80 79	19 9†	14	27 26	58 52	0.85		0.34	0.0	5	15 19	10	8	W.	Do. Do.
(7) Sylvan Pass	do	7,000	3 4			79 76	19	18 16	26	48	1.07		0.70	0.0	2	18 15	4	8	w.	Do. Do.
(9) Tower Falls	do	6, 250	1	52.2		81	91	17	26 26 26	50	0.34		0.12	T. T.	5 5	13	17	0	ne.	Do.
(10) Upper Gey. Basin	do	7,395	6	49.5		80	28	20	26	55	1.10		0.60	T.	- 3	16	0	14	80.	Do.
dams	Dawson		2	56.2		92	16	26	26	41	0.41		0.16	0.0	4	16	7		sw.	W. B. Ennis.
delgricultural College	Gallatin	4,700	11 12	51.9 50.8	- 2.3	84	19	29 27	26	36	3.51	$\begin{array}{c} + 2.41 \\ + 1.82 \\ + 1.50 \end{array}$	0.41	6.0	13	12	13	15	W. se.	Bessie F. Burch. E. Burke.
ugusta	Lewis & Clark	4,071	12	49.6	- 2.8	80 83	15†	17	24 25	51 49	3.21	+ 1.50	1.04		7	16	7	7	W.	C. C. Covington.
abbald Butte	Teton Lewis & Clark	6,500	i				19	16	20	49			1.30 0.71	25. 1 9. 5	11 9	9	10		w.	U. S. Reclamation Service Matt W. Alderson.
ig Timberig Timber Creek	Sweetgrass	4,072	5	59.4		81	15†	23	26	44	3.26 3.55		0, 98 0, 68	8.0 11.4	8	16	14		w.	F. A. Severance. J. T. Mjolsness.
illingsis	Yellowstone	3, 115	15	57.0	- 3.1	92	16	21	26	48	1.85	+ 0.97	0.60		6				w.	U.S. Weather Bureau.
oulder Nurseryowen	Jefferson	4,920	14		- 2.6	81	19	26 12	111	44k 57	4.27 1.08	+ 2.86	1.24 0.38	T. 0.0	9	5h	10h 15			U. S. Forest Service. B. B. Lawrence.
ridger	Carbon	3,064	2	56.0		89 87	16	37	0	52	2, 20		1.00	0.0	6	4	16	10	n.	L. E. Gard.
roadview Exp. Station	Yellowstone Rosebud		5			87	16† 15†	24	26			*******	0.85	T. 12.0	7 8	14	12		a. ne.	Dr. W. X. Sudduth. C. A. Linscheid.
asteed	Sweetgrass		2	53.4		88 84	18†	19	26		0 84		0.92	10.0	13	10	10	10	w.	Thos. H. Busteed.
abin Creek	Beaverhead Lewis & Clark	3,644	12	55.1	- 0.9	85	15†	29	26	40	1.66	+ 0.57	0.51	*****	9	12	13	5	nw.	W. J. Crowell. A. C. Pratt.
ascade hessman Reservoir	Cascade	3, 361	5 2	56.0 .		86 72	16 19	31 21	9 25	42	4.24		1.01	0.5	11	13 17	6 3	11	sw.	E. E. James, Chas. D. Schmidt.
hester	Lewis & Clark, Chouteau	3, 140	7 .					21					0.98		9	-	3		nw.	Great Nor. Exp. Station
hinook	Teton	2,502	10 .																	Thos. O'Hanlon Co. Henry Davidson.
ear Creek	Chouteau		4								1-22-									Cortez Sedgwick.
emonsyde Park	Lewis & Clark	4,672											1.72 0.46	8.5 6.9	15	10	8 7		W. W.	Frank Eberl. L. B. Marquis, M.D.
opper	Meagher		5 .								2.53		1.00	12.5	11	12	8	10	w.	Orville Harris.
row Agency	Rosebud Valley	3,041	28	58.5	- 0.2	86	16	15	25	57	1.67	+ 0.74	0.91	4.0	5	23	0		nw.	F. E. Server. G. H. Coulter.
ut Bank	Teton	3,700	12		+ 0.8		18		24				0.45	2.5		23	3	4	w.	Chas. N. Thomas.
ecker	Rosebud Meagher	3, 400 5, 000	6					*****			*****								*****	Adam Anderson. T. L. Holliday.

Table 1.—Climatological data for September, 1910. District No. 6—Continued.

		T	yrs.	Tem	perature	, in de	grees	Fahr	enhe	at.	Prec	ipitation	, in ir	ches.	days.		Sky		lon.	
Stations.	Counties,	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind direct	Observers.
Montana-Cont'd.	. Fergus		. 2	54,0				29	26	39=			0.66	0.5		5	10	15	nw.	P. T. Griesenauer.
Dillon Dirty Creek	Monghor	5, 147 6, 000 5, 500	13	55.0	+ 1.3	82	5†	27	25	48	2.83		0.92	12.5	13	13	6	11	w.	J. E. Monroe. Lewis Cameron. J. C. Stuart.
Dry Wolf Camp East Gallatin River	Cascade	6,000	1 1	50 A		90	10	99	98	40	3.33		0.70	7.0	11	15	6	9	w.	Mrs. R. J. Eveleth. John Eberhart. Wm. Freese.
Elkhorn	Jefferson	6,576 4,900	1 3				10		20	- 10	3.87	******	1. 25	6.4	10	16	2	12	sw.	James Heagan. H. Thrasher.
Fallon	. Custer	2, 208	6	57.3 51.6		84	16	25 19	26 25	49	0.54	******	0.19	0.0 2.0	11	16 7	6 12	8	w. w.	Mrs. A. C. Gifford. U. S. Reclamation Service.
Fish Creek Fish Tail Creek	Carbon	5,000	i	44.3	*******		13	18	20	40				13.0	12	10	6	14	80.	O. B. Tilton. O. E. Haskin. L. G. Brown.
ForsythFort Benton	Rosebud	2,514	30	59. 2 53. 0	- 4.0	92 84	15† 17	27 30	26 26	50° 38	2.51 1.96	+ 0.95	1. 25		1	124	13	9°	e.	J. M. Patterson, jr. Jere Sullivan.
Fort Shaw	Lewis & Clark	3,500	6	52. 9		80	15 15†	20	1	37=	2.84	+ 1.97	1.48	Т.	6	15 16	1	10	sw.	U. S. Reclamation Service. Post Hospital. E. K. Bowman.
Garneil	. Fergus	5, 500	1	******	*******						0.36	- 0.74	0.26		2					Thos. E. Scally. W. B. Walker.
Goldbutte	Chouteau		3	52.0 58.0		92	16	17 28	25 26	48	0.78 1.86		0. 26 0. 63	0.8 1.5	8	11	14 5	5 11	B. nw.	J. T. Berthelote. J. S. Rue.
Grayling	Cascade	3, 350	19	55.7	- 1.3	79 80		12 30	26 25	37	3.35		1.02	1.5	8	8	13	9	D.	P. Kerzenmacher. S. H. Bauman. Thos. Stigen.
Half Way House	Stations. Counties, Stations Counties, Stations Counties, Stations Counties Stations Counties Stations Counties Stations Counties Stations Counties Stations Counties Count	51.20		84	19	28	91	460	3.33		0.67	8.0	11	19	3	8	sw.	Gordon Deans. Joseph Muir.		
Havre	One. Counties,	0. 22 0. 39	0.0 1.0	6 11	10	9	11 15	SW.	U. S. Weather Bureau.											
Highwood	Counties	7	13	13	4	w.	W. S. McCord. H. L. Miller. U. S. Reclamation Service.													
Jones Canvon	Countless	Jas. McCune. W. C. Henderson.																		
Lewistown	Park	4,010		55.8	- 1.7	86	15	27		40		+ 1.22		7.0	16	14	7	9		W. W. Watson. Lewis Terwilliger.
Lost Horse Creek	Meagher	5, 800	1	55.8		88		30			3.46		1.01	0.0 17.3	10		11	6	w.	E. Wilson. C. M. Mason.
Meadow Creek	Madison	6, 700	1	30.9	*******	89	1		12	1		******		*****	7				*****	U. S. Reclamation Service. F. E. Parent. E. J. Parkinson.
Mildred	Custer		1	59.2	- 2.0	94	16	31	26	41	2.36		0.54		6 8	14	14	4 9	nw.	Leon B. Clarke. U. S. Weather Bureau.
Moore	Madison	4,845									2.06		0.57	4.0				15	n.	Clyde Grove. Madison River Power Co.
Olsen Creek	Jefferson	6, 345		40.2		80	15	20	1		4.50		2.00	2.9	11	15	8	7	W.	F. L. Bryant. Robt. Olsen. Mrs. Theola Kiermeyer.
Raymond	Teton	4. 260	25	56.6	- 2.7	92	16	26	13	52		- 0.45			2	22	4			H. M. Cozier. W. H. Campbell.
Reese Creek	Gallatin	5,000	1					******												I. A. Draper. Henry Cramer. F. B. Elmer.
Rvegate	Vellowstone	3 640	. 2		- 2.0				26	50				4.0						Milo Brooks
SedanSpringbrook	Gallatin	3, 155	2						12		0.32		0.16		2	12	12	6		H. W. Scherfenberg. Asa Hennes. Mrs. H. L. Miller.
Stearns	Lewis & Clark Gallatin	4,500		*******				******	104	-144										J. W. Hardgrove. A. A. Adams U. S. Reclamation Service.
Townsend	Broadwater	3,790	1	57.5"						474	3.57		1.87		5				w.	River Observer. Andrew Wiedenbauer.
Utica Valentine	Fergus		16	55.2		89	15	25	121		2.47 0.67		0.60	T.	9	15 17	3	10	w.	P. W. Korell. B. M. Bean.
Wall Rock Mountain	Madison				- 2.0			*****			4.04	******	0.89	1.5	11	1	21	8	nw.	Francis Mailand. D. L. Doig. M. D. Lytle.
Willow Creek	ParkLowin & Clark	9,000		56.6		85	159			40					8					John Topp. A. W. Verharen.
Woodville	Jefferson	6,376									0.39		0.22				***			River Observer. Anna Kinman.
Aplin	Oliver	0.750	3			90	16	28			0.66				4	10	19			J. B. Hagelbarger. D. J. Steiner.
Berthold Agency	McLean	2,052	13	55.6		93 88	16 20	20 31	121	46	1.04	- 0.22	0.49	0.0		14	7	9	n.	C. L. Hall. U. S. Weather Bureau.
Broncho Buford	Mercer	1,944	2 4	58.7 56.7		89 97	21 16	25 24	98	59ª 45	1.12		0.65 0.03	0.0	1			8	SW.	E. M. Walker. G. O. Sanford. F. H. Childs.
Dickinson	McLean	1.901	17	56.0	- 0.5	87	16	27 28	9	44	0.10	- 1.37 - 0.30	0, 21	0,0	8		4		nw.	F. H. Childs. L. R. Waldron. O. A. Thompson.
Fullerton	Williams		2							43	0.24		0.08	0.0	5	18	8	6	n.	M. E. Ugan. F. O. Alin.
Haley Hettinger	BowmanAdams	2, 253	3	62. 4 56. 6°		93 *	16 16	34 26*	25 8	34 55°	3.52 2.41		0.98 1.00	T. 0.0	8 5	18	5		nw.	A. M. Oberchain. F. E. Ellickson.
Jamestown	Williams	2, 275	22	51.8 54.0	- 3.2	94 76	16	18 30	26 12	53 35	2.79		1.61	0.0	6	6	0	15	sw.	C. P. Amsbaugh. L. B. Baldwin.
McHenry	Lamoure	1,307	3	******							4.27		1.67	0.0	6					E. V. Virgin. E. O. Ellison. John Knox.
Manired	Bowman		8			81	4	27	12	44	2.16 1.58		2.16 0.82	0.0 2.0	8	9	9	12	sw.	P. B. Anderson. S. P. Grane.
Medora	Stutsman	9 998	13	57.2		84 99 85	17	24	30	70	2.97 0.12	- 0.64	1.85 0.12	T.	3	13	9	8	0.	H. H. McCumber. J. W. Hesser. J. P. Kidder.
Melville Mott.	Foster	1, 390	12	57.0 55.6	+ 1.4	85 88	16	30 29	91	43	2. 64 3. 80	+ 1.48	1.66 1.22	0.0	4 7	13	6		nw.	O. H. Opland.

TABLE 1.—Climatological data for September, 1910. District No. 6—Continued

			E.	Tem	perature	, in d	egree	Fahr	renhe	eit.	Prec	ipitation	, in in	ches.	Ays,		Sky		00	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy d.	Number of clear days.	Number of part-	Number of cloudy days.	Prevailing wind	Observers.
North Dakets-Cont'd.	Logan	1,955	18	56.0	- 0.8	84	201	27	12	43	3.53	+ 2.36	1.11	0.0	6	13	3	14	nw.	C. J. Hoof.
New England	Hettinger			54.0 55.6	- 2.2	90 86 85	20	27 31	91	51 38	0.99	- 0.01	0.37	0.0	6	16 13 17	. 9	14 8	nw.	W. C. McKenzie. J. Christianson.
range	Adams		. 3	55.0	******	85	16	29	26	44	3.71	******	1.70	0.5	7	17	5	8	nw.	J. E. Goforth. T. A. McCann.
alermo	Ward McKenzie	2, 200	6			*****		*****			*****		******	******				****		F. L. Clark.
tecle	Kidder	1,857		******				90	10	49		*******	******			19	13	5		B. C. Smith. W. R. Peterson.
ashburn	McLean	1,731		56.0 54.0	- 5.5	95	16	28	12 26	43	0.73	- 0.79	0.41	0.0	1	12	13	9	w.	U. S. Weather Bureau.
ishek	MeIntosh			******		*****		*****		****			*****	*****						H. E. Timm.
South Dakota.																				
herdeen	Brown	. 1,300		57.0	- 2.2	92	19	30	91	48	1.20	- 0.64	0.40	0.0	5	17	10	11	8.	D. G. Gallett.
cademy	Charles Mix		21	63.4	- 1.0	98 95	16	32	27	49		+ 0.54	1.50 0.80	0.0	6 2	13	13	10	se.	I. T. Lothrop. W. S. Hill.
rdmore	Fall River	. 3, 557	1	******	******				****	***	1.50	******	1.00	0.0	2	17	9	10	w.	Chi., Burl. & Quincy R.
rmourelle Fourche	Butte		15	62. 5 58. 2	- 0.4	100	16	33 27	26	46	2.69	- 0.66	1.00	0.0 T.	9	16	2	12	ne.	T. J. Markey. U. S. Reclamation Servi
rookings	Brookings	. 1,636	21	60.1	+ 0.5	88	17†	27	27	48	0.96	- 1.13 + 1.29	0.44	0.0	4	11	6	13		Experiment Station.
amp Crook	Harding			60.0	- 2.0	93	17	28	27	51	4. 12	+ 1.72	0.95	1.0	6	16 20	5 7	9	nw. se.	U. S. Forest Service. John H. Holsey.
ascade Springs	Fall River	. 3, 422	2	62.0	*******	93	61	30	26	60	1.59		0,80	0.0	7	14	9	7	ne.	Fred Noerenberg. M. N. Bradley.
astlewoodenterville	Hamlin	1,685	13	58. 2 62. 0	******	88 94	17	27 31	9 27	47	1.31 2.50	- 0.32	0.58	0.0	10	12	14	14	8. 90.	M. N. Bradley. Frank Williams.
hamberlain	Brule	. 1,363	13	65.5	+ 1.1	98	16	32	27	50	2.36	- 0.32 + 1.18	2.10	0.0	2	17	9	4	80.	G. A. Fry. O. H. LaCraft.
larkottonwood	ClarkStanley	2,414	16	59.45	+ 0.1	106	17	28	9	445	1.38	- 1.13	0.70	0.0	6	14	11	5	nw.	O. H. LaCraft. Experiment Station.
row Creek	Buffalo				*******	*****	×				1.12	*******	1.12	0.0	1	18	12	0	80.	William Fuller.
aviston	Perkins	4, 535	1	56.4 56.2	******	92 85	16	25 22	26 26	46	2.05 3.50	******	0.85	1.0	5	16 18	6 2	8	nw.	G. G. Davis. R. E. Grimshaw.
eadwood	Pennington	. 6,000	i	******	*******	00	20		20	**	0.63		0.26	0.0	6	20	3	7	sw.	Frank E. Miller.
e Smet	Kingsbury	1,726	17	59.8° 62.1	- 0.2	92 100	17	29 33	9 26	48°	0.93	- 0.98	0.68	0.0	4	15 14	12	7	80.	J. O. Purintun. M. P. Dowling.
owling	Stanley	. 6, 195	i			100	16		20	40	1.36	*******	0.51	T.	6	14	9	7	sw.	A. B. Wood.
k Mountain	Custer	4,700	1	49.0	*******		174	99	07	42	1.17	*******	0.71	T.	5	15	6	9	80.	James E. Blaine.
k Point	Union		11	63.0	*******	89	171	33	27	43	3, 40	*******	0.90	0.0 T.	7	16	3	11	80. 8.	M. Hoffman, jr. T. J. Cummins.
ureka	McPherson	. 1,884	1	60.6	*******	90	6	32	12	47	3.65	*******	1.00	0.0	7	6	18	6	ne.	Experiment Station.
aulkton	Faulk		15 20	60.0	- 0.1 - 0.4	93 88	19	29 30	12 27	51 43	1.00	- 0.42 - 0.19	0.51	0.0	6	15 16	5 9	10	nw. s.	Miss Belle Talcott. W. A. Harris.
orestburg	Sanborn	1, 231	18	62.7	+ 0.5	95	17†	29	27	50	1.56	- 0.17	1.17	0.0	3	16	7	5 7	se.	S. S. Judy.
ort Meade	Meade		28	61.4 58.4	+ 0.8	88 95 90 97	6	29 25	26 11	44 57	3.49 1.87	+ 2.66	0.81	0.0	7	15	8	7	w.	Post Hosiptal. J. E. Jeffers.
annvalley	BuffaloLawrence		. 12	64.4	+ 1.4	96	16†	31	9	53	1.82	+ 0.56	1.60	0.0	3	14	10	6	BW.	V. P. Drips.
reenmont	Charles Mix	. 6, 430	16	65.6	+ 0.2	99	161	37	9	43	1.81	+ 0.49	0.85	0.2	4	16 15	10	8	w. e.	H. C. Hoffbuhr. T. C. Williamson.
reenwood	Lawrence	. 6, 600	1								2.16	******	0. 99	2.0	11	18	0	40		Mrs. Mary E. Seals.
arvey's Ranch ermosa	Custer		4	60.8		98	16	27	25	43	0.37	*******	0.17	0,0	6	18	5	7		Jerome Harvey. S. M. Booth.
ighmore	Hyde	1,890		62.1	- 1.3	96	6	28	12	55	0.89	- 0.51	0.60	0.0	7	15	5	10	ne.	Experiment Station.
ill Cityopewell	Pennington	. 5,067	1	63.5		93	16	35	12	43	0.29	*******	0.00	0.0	3	16 12	8	10 10	ne. s.	Geo. A. Karr. E. R. Myers.
oward	Miner	. 1,564	18	59.8	- 2.0	92	17	28	9	47	1.10	- 1.09	0.75	0.0	4	13	9	8	80.	J. J. Cox.
owell	Hand Beadle	1 306	28	60.5	+ 0.6	99	6	27 31	9 27	62 48	0.70 1.00	- 0.69	0.44	0.0	5	15	8	7	90. S.	M. A. Shuster, jr. U. S. Weather Bureau.
wich	Edmunds	1,530	13	57.4h	- 1.6	87	20	28	12	48										J. B. Taylor.
adoka	Stanley Lyman	2,467	17	63. 2	+ 0.8	100 102	16 16	36 32	26†	44 56	1.50	+ 0.62	0.99	0.0	7 2	15 13	14	13	S. S0.	Rev. D. S. Brown.
dder	Marshall	. 1, 295	6																	R. C. Van Horn. H. C. Schussler.
imball	Brule	1,788	13	62.3	+ 0.2 + 1.0	95	16 31	34	26†	46	2.33 1.10	+ 1.13 - 1.50	2.03	0.0	5 3	18 14	3	13	se.	G. D. Rose. E. L. Ebbert.
Delle	Spink	. 5, 200	1	58.3	T 1.0	85 87	16	25 24	8 26	37	3.13	- 1.00	1.50	T.	7	8	13	9	nw.	E. F. Irwin.
mmon	Perkins	. 2,345	1 9	56.6 61.8		86 93	16 16 17 15	31 32	26 28	37	3, 27 2, 99		1.73	0.0	8	16	7 12	7 9	ne. se.	W. E. Lyman. M. H. Dains.
arion	Turner		2	60.2		99	15	28	11	60	0.55	*******	0.42	0.0	2	12	8 7	10	86.	John S. Walker.
ellette	Spink	1,300	15	59.8 62.6	- 1.7 - 0.6	94 95	6	28 33	9 27		0,71	- 1.00 + 1.02	0.57 1.85	0.0	3 5	15 12	7 6	8 12	80. 80.	Frank A. Howe.
nnolbank	Hutchinson	1, 148	19	58.5	- 2.4	92	7	29	12	46	0.81	- 1.03 - 0.56	0.36	0.0	4	11	4	15	nw.	J. H. Swanton. I. T. Patridge. C. W. Downey.
tchell	Davison Lyman	. 1,312	16	60. 1 63. 2	- 2.2	93 100	17 16	31	9 26†	46 52	1.57 1.58	- 0.56	1.23	0.0	4 3	15 20	10	5 7	n. ne.	C. W. Downey. L. C. Bode.
irdo	Fall River	. 3, 339	18	61.2	+ 0.6	95	17	28	26	60b	1.20	+ 0.15	0.60	0.0	4	9	17	4	ne.	J. E. Strouse.
man	Butte	. 2,920	4	61.4		97	16	29	26	46*	2.98		1. 27	0.0	9	11	12	7	e.	U. S. Reclamation Servi
tumwa	Stanley	1,572	18	63.0	+ 0.2	100 97	16	31 37	27 27	57 49	1.23	+ 0.02	0. 91	0.0	3	19	12	8 9	e.	J. W. Bretz. U. S. Weather Bureau.
ankinton	Aurora	. 1,528	16	80.0	******	*****		*****		80	2.24	+ 0.36	1.73	0.0	5	14	9	7	nw.	W. G. Andrews.
pid City	Pennington	3, 251	22	56. 8 59. 6	+ 0.5	88 95	20 16	26 30	11 26	50 47	4.62 1.79	+ 0.53	1.70 1.57	0.0	6 7	11	6 10	13	se. n.	J. H. Jones. U. S. Weather Bureau.
dfield	Spink	1, 295	12	58.5	- 0.6	94	6	30	12		0.92	- 1.17	0.52	0.0	2 7	18	4	8	80.	A. S. Hall.
osebud	Pennington	5, 228	16	62.0	- 0.2	94	16	30	27	50	0.64 1.28	+ 0.38	0.20	T. 0.0	8	13	11	8 7	nw. ne.	Mrs. M. E. Deffenbaugh W. M. Ege.
oslyn	Day		4	58.2	******	85	20	30	12		1.46	******	0.80	0.0	8 5	13	10	7	8.	O. O. Floren.
lby	Lawrence	4,500	1 2	60.8		86	6	33	9	42	3.77	******	1.60	0.0	5	13	11	6	nw.	M. J. Hall. Miss Gertrude Hall.
oux Falls	Minnehaha	. 1,400	19	64.8	+ 2.5	98	17 17		27	48	2.38	+ 0.17	0.63	0.0	10	7	10	13	8.	J. H. Bechtold.
earfish	Lawrence	. 3,647	20	60, 6 ⁴	+ 0.2	93	17 16	32 28 29 29 28	26 9†		3.48 0.67	+ 2.33	0.39	0.0	6 3	13 12	6	12	W. 80.	O. A. Martin. Rev. A. Mattingly.
ma	Meade	1,010	1	62.4		94	16	29	26	48	1.40		0.45	0.0	6			****		J. J. Daly.
de	Butte	2,765	9			98 93 97 94 96 92	16	28 36	26 27		3. 22		1.83	0.0	8 7	18 16	7	5 7	6.	U. S. Reclamation Servi Prof. E. C. Perisho.
sters' Ranch	Lawrence	4,000									4.11		1.28	1.5	9	14	5	11	ne.	George Waters.
atertown	Codington	. 1.735	16	59.2 59.6	+ 0.6	88	71	30	91	46	1.20	- 0.67	0.70	0.0	5	16	4	10	se.	Robert Q. Wood.
entworthhite Lake	Lake	1,646	17	39. 6	- 1.5	90	17†	32	91		2.24	- 0.19	2.03	0.0	4	22 8	11	11	S. S.	R. C. Zimmerman. Mrs. G. A. Rogers.
	Tripp	. 2,500			*******			*****												A. L. Rawson. U. S. Weather Bureau.
nner	Yankton	1 094	36	62.4	- 0.9	96	17	37	27	37	4 (80)	+ 2.27	2.24	0.0	9	10	12	8	80.	

Table 1.—Climatological data for September, 1910. District No. 6—Continued.

			E.	Tem	perature	, in d	egree	Fah	renh	eit.	Prec	ipitation	, in in	ches.	day.		Sky		Hon.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of clear days.	Number of part-	Number of cloudy days.	Prevailing wind	Observers.
Colorado.	Washington	4, 650	8								2.78		1.88	0.0	7					Ira M. Barnhouse.
lmarriba (near)	Park	10, 238	1 13				101				0.56	- 0.38	0.45	0.0	8	25 20	10	5	W. 80.	F. H. Clark. C. A. Creel.
uldhurst	Lincoln	8,500		******				*****			0.72		0. 22	0.0	7	11	15	4	8.	Mrs. Alice A. Auld.
oreasoulder	Park	11, 489	14	63.2	- 0.2	90	10	36	26	45	2.05 0.48	- 1.37	0, 53	3.0	5	14	12	14	nw.	Frank Soper. O. H. Wangelin.
urlington	Boulder	4, 160	6	66.0		94	61	36	26	46*	1.58		0.51	0.0	7	130	14=	2 a	80.	O. H. Wangelin. W. P. Davis.
assells	Park	6, 220	18	63.0	+ 3.4	91	16	33	27	50	1.15	+ 0.21	0.40	0.0	9 7	19	9	2	W.	Harriet M. Cassell. Geo. Tunnicliff.
heesman	Jefferson. Cheyenne.	6,890	7	61.2		85	10	34	27	44	1.50		1.00	0.0	3	17	13	0	w.	Geo. Tunnicliff. J. G. Thornburg.
heyenne Wells	Cheyenne Washington	4, 279	18	66.6	$^{+2.1}_{+2.3}$	94 95	10	40	261	46	1.53 3.14	$+0.13 \\ +2.20$	0.73 1.02	0.0	3 7	17	10	8	e. s.	J. W. Adams. A. A. Williams.
	Washington Grand	11,660	3	42.4		59	8	19	5	81	1.92		0.70		7	10	14		W.	U. S. Weather Bureau.
denver dgewater stes Park Fish Hatchery	Jefferson	5, 450	38	64.3	+ 1.6	91 96	10	39 37	26 27	40 51	1.00	+ 0.11	0.51 1.02	0.0	8	12	13	0	8.	Dr. N. P. Levin.
stes Park Fish Hatchery	Larimer	8,000	91								1.92		0.44	0.0	13	12	15 12	6	w. nw.	Gaylord H. Thomson. Colorado Agri. College
ort Collinsort Morgan	Morgan	4, 950	0.1	61.5	+ 2.0 + 2.2	92 97	10	34	27 26 26	51 54		+0.58 + 0.47	1.40 0.80	0.0	8	8	21	1	ne.	Della M. Scott.
rances	Boulder	9,300	. 8	55. 1		80	15	30 29	26	35 51	1.49		0.21	0.0	17	10 15	19 11	1 4	w. w.	D. A. Barry. Norman W. Fry.
ry's Ranch eorgetown	Larimer	8,550	9	55.3		82	17		261		1.51		0.65 0.37	0.0	15	11	15	4		H. L. Corbett.
reeley	Welddo	4, 649		63.5	+ 2.1	93	7† 16	32	26 26	54 45	0.49	- 0.33		0.0	6 8	18 15	10	7	e.	Nelson Reynolds. Geo. M. Blake.
rover	Park	7, 670					19	31	20		0. 91		0.31	0.0	8 7	24	6	0		Emily Kleinknecht.
awthorne	Boulder	6.000	14	******				*****		.,,,	1.22 2.30	+ 1.24	0.62 0.56	0.0	7	26 18	3	11	se.	B. E. Chesebro. A. C. Cauble. J. J. Willis.
laho Springs	PhillipsClear Creek	7, 534	10	57.6	+ 1.6	81	1	33	26	44	2.30	+ 1.14	0. 92	0.0	10	4	26	0	e.	J. J. Willis.
eota	Weld Boulder	4,966	3					*****				******	*****	****				****	*****	G. J. Farrell. East Colo. Power Co.
ossler	Larimer	5, 053	19		***** **							*******	******	*****	****				*****	P. A. Taft.
e Roy (near)	Logan	4, 380	20								1.72	+ 0.59	0.87	0.0	8					Chas. Green. Great Western Sugar C
ongmontong's Peak (near)	Boulder	8,600	15	49.4	+ 0.6	80	17	27	28	49	0.17	- 1.64	0.02	0.0	11	13=				Enos A. Mills.
oraine	Larimerdo	7,775	20	54.5	+ 1.8	79	9	30	26	46	1.55	+ 0.25 - 0.31	1.00 0.50	0.0	5	11	19 15	0	W. SW.	J. D. Stead. Denver Union Water C
t. Cloud	Jefferson	7,750	7	******							1.49	- 0. 31	0.43	0.0	6	ii	17	2	е.	Miss Guilla Sivers.
edgwiek	Sedgwick	3,573	2	65.4			17	32 22	26	58	2.60		0.63	0.0	8 10	16 23	13 5	1 2	ne. w.	Dr. Edwin Lewis.
ll Minelver Lake	Clear Creek Boulder	11,500	1	45.5			17	22	4	40	2.07		0.60	8.0	10	20				Chas. F. Deininger. Clair V. Mann.
picer (near)	Larimer	8, 700									1.60		0.72	0.0	6	14 12	7 13	5	ne.	Frank W. Murphy. Great Western Sugar Co
aterdale	Logan		7	63.0	******		16	38	26 6†	51	0.92	+ 0.24	0.49	0.0	8	1.0	10		INC.	P. H. Boothroyd.
estlake	Boulder		2	******			104	95	98	40	1 79	+ 0.40	0.82		8	14	14	2	6.	C. R. Keeney. J. C. Tuomey.
ray	Yumado.	3, 512 4, 138	14	69.9	+ 5.3	93	10†	35	26	46	1.73	+ 0.40	V. 02	0.0					*****	Jean Deaken.
uma	D	0.000	5	** 0		00		38	26	49	0.68		0.26	0.0	4	3	17	10	sw.	John M. Cotton.
insworth	Brown	2,521	12	65.8	+ 2.0	98 96	17	32	27	56		- 0.86	0.64	0.0	6	13	9	8	8.	F. M. Weitzel.
lliance	Boxbutte	3,968	15	47 0	*******	94	74	40	97	38		T 0 80	2.18	0.0	10	16	9	5	8.	J. A. Keegan. W. A. Sharpnack
lma	Harlan		4	67.8	+ 1.5	102	7† 16	27	27	58	1.12	+ 0.89	0.70	0.0	5	9	13	8	nw.	W. Whitla.
readia	Valley	2, 186	11					97				- 1.65 - 0.23	0.45 1.28	0.0	10	10 18	11 7	9 5	50. 50.	Jas. L. Owen. Dr. A. S. von Mansfelde
shland	Sherman			66.2	- 0.9	90	17	37	27	32		- 0.61	0.76	0.0	7	16	7	7	SW.	F. Rein.
tkinson	Holt	2, 108	4	62.4	- 2.0	97	17	36 35	27	44	0.54		0.35 2.60	0.0	9	12 15	14	11	8. 80.	F. Rein. Chas. J. Wilson. J. R. Huffman.
uburnurora	Nemaha Hamilton	1, 792	18	65. 0 66. 4	- 2.0 - 0.7	93 93 88 97	18 16†	40	27 28 27	49 36	4.26	+ 3.26 + 0.86	2.43	0.0	4 7	18	4	8	e.	Chi., Burl. & Quincy R. Wm. S. Waxham. T. M. Davis.
eatrice	Gage	1, 235	19	67.0	- 0.1	88	18	39 40	27	36 40	3.88 1.58	+ 1.06	2.84	0.0	6	17	8	5	se. ne.	Wm. S. Waxham. T. M. Davis.
eaver City	FurnasSarpy	1, 210	28	68.3 66.1	+ 0.9	90	17	39	27	29	3.42	- 0.08	1. 63	0.0	10	15	7	8	80.	Prof. A. A. Tyler. R. D. Druliner.
enkelman	Dundy	2,968	13								1.16	- 0.55	0.46	0.0	11	9	16 12	7	80.	R. D. Druliner. W. F. Dobbin.
ertrandlair	Phelps	1, 122	15	64.2	- 0.3	90	17	37	27	45	2.47 3.76	+ 0.35	0.85	0.0	8	17	8	5	sw.	H. H. Hahn.
lairloomfield	Knox		4	62.8		94	17	32	27	44	2.75 4.68	+ 0.11	1.40	0.0	4 7	11 15	15 10	5	8.	Dr. L. C. Bleick. E. C. Roggy.
radshawridgeport	York Morrill		14	63. 2	+ 1.2	96	101	29	26	53	1. 16	+ 0.08	0.40	0.0	6				80.	E. C. Roggy. R. H. Willis.
rokenbow	Custer	2,477	15	63.6	+ 0.5	96 98	7 16	35 30	27	49	1.92	- 0.30	0.58	0.0	8	8 17	8	20 5	8.	Chi., Burl. & Quincy R. H. A. Davis.
airo	Cherry	1, 951	1	62.4	*******	98	16	30			1.78	*******	1.42	0.0	3					Elliott Harrison.
allaway	Custer	2,555	17			102	7	40	27	50	1.37		0.45	0.0	6	16	6	8	8.	J. H. Evans. Chas. Jensen.
anton (near)	FurnasSioux		1	68.4 60.7d		95	10	18	26	59d	1.12		0.40	0.0	7 7				80.	A. E. Hann.
olumbus	Platte	1,442	17	63.7	- 0.7	94	17	36	27	39	1.48	- 1.48	0.43	0.0	7 8	14 10	17	12	80.	C. C. Gray. A. A. Luttin.
reighton	Dawson	1.600	13	*****				*****			2.11				****	****				A. A. Luttin. W. L. Kirk.
rete	Saline	1, 368	13 27	66.6	+ 0.4	91	17	38 36	27	33 48	6.69	+ 4.13	3.95 0.41	0.0	7 5	14 12	10	6	nw.	Doane College. J. H. Corrick.
ulbertson	Saline	2,553	23 13	68.2 66.2	+ 1.1	98 90	15 7†	34	26 27 27	43	3.00	- 0.52 + 0.78 + 0.01	1.18	0.0	7	18	4	8 6	8.	Dr. S. R. Razee.
avid City	Butler	1,619	21 17	64.0	+ 0.2	87	17	38		30	2.63	+ 0.01	1.65	0.0	9	11	13	-	80.	S. Clingman. Mrs. E. I. Atkinson.
awson	Pawnee	1,074	5			*****					3.53		1.10	0.0	9	20	3	7	8.	O. M. Backus.
lis	Gage	1,430	5								3.65		2.65 1.00	0.0	3				*****	D. J. Wood. E. L. Sutton.
sie .	Perkins	3, 382	2 2			*****		******		****	1.36	*******	0.35	0.0	9				*****	J. F. Brittain.
nderslake	Brown Holt		1	*****	*******					50				0.0			****			G. W. Chappell. G. H. Benson.
wing	Jefferson	1.316	18 35	63.8	+ 0.5	100 95	17	37	27	41	0.74 2.79	- 1.44 + 0.04	0.33	0.0	7	10	14	6	80.	W. F. Cramb.
airmont	Fillmore	1,641	35	63.8	- 1.8	95 95 96 94 91	17	33 37 37 22 34 36 35 39 35	27 26 27 27 27 27 27 27 27	40 55 49 36	4.70	+ 1.83	1.62 1.55 0.65	0.0	6	13	0 3	17	8. W.	Chi., Burl. & Quincy R
ort Robinson	Dawes	1.820	26 19	59.8 69.2	$\frac{-1.2}{+2.3}$	96	15	34	27	49	1.47 2.87	+ 0.38 + 0.29	1.73	0.0	8	19 12	9	8 9	8.	Post Hospital. Jesse H. Naden.
emont	Dodge	1, 203	30	65.0	0.0	91	7† 17 17	36	27	36	3.87	+ 0.98	1.12	0.0	7	13 15	11	6	80.	Dr. F. W. Johnson
ıllerton	Nance	1,629	20	64.8	+ 0.8	94	17	35	27	40 44 43	1.98 4.26	+ 1.56	2.65	0.0	5 7	18	13	6	8W.	F. M. Flory.
enoa	Nance	1,584	35	64.0	- 0.3	92	17				2.17	- 0.89	1. 13	0.0	8	15	10	5	8.	Dr. F. W. Johnson. F. M. Flory. F. W. Parsons. G. F. Williams. E. H. Stoll. Dr. W. J. Rartholomew.
ordonosperothenburg	Sheridan	3, 550	8	******		*****			****	****	1.05		0.79	0.0	8	11	14	8	8.	E. H. Stoll.
	Crosper	***	16	66.6	+ 1.9	96		38	27	47		- 0.16	0.80	0.0	4	12	8	10	ne.	Dr. W. J. Bartholomew

TABLE 1 .- Climatological data for September, 1910. District No. 6-Continued.

			E	Tem	peratur	, in d	едтее	s Fahr	renhe	it.	Pro	cipitation	n, in in	ches.	days.		Sky		lon.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatost daily	Total.	Departure from the normal.	Greatest in 24 hours.	Total enowfall unmelted.	Number of rainy	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind	Observers.
Nebraska-Cont'd.	Hall	1,880	19	66.2	+ 0.8	98	17	40	27	40	2.83	+ 0.18	1.80	0.0	7	10	9	11	ne.	E. A. Barnes.
rectoy	Perkins	2,021	15	64.44		96 90	7† 17	30	26 27	50°	1.78	- 0.62	0.46	0.0	7	14	11	5	se.	Cyrus Carver. W. E. Morgan.
uiderock	. Webster	1.646	10	******	******						3.54	- 0.04	1.95	0.0	8	8	14	8	ne.	J. S. Marsh.
laigler	Dundy	3, 258	15	******	*******	*****		*****			2.96	+ 1.83	1.17	0.0	5	7	12	11	******	Chi., Burl. & Quincy R. U. S. Forest Service.
alsey	. Cedar	1, 300	19	61.2	- 1.5	93	17	32	27	43	3.64	+ 0.76	1.20	0.0	6	14	.7	9	sw.	D. E. Ewing.
arvard	Clay	1,812	21 20	65.4	- 0.4 + 0.1	94	17 18	37 38	27 28	36	3.08	+ 0.21 + 0.56	2. 10 1. 10	0.0	7	14 20	11 6	5	se.	Dr. J. T. Fleming. Chi., Burl. & Quincy R
astingsayes Center	. Haves		. 17		*******															C. A. Ready.
ay Springs	Sheridan	1,458	23 25	62.0	+ 2.2	92	171	29 37	26	52 37	0.60 3.42	- 0.42 + 0.70	0.55	0.0	10	13	9	8	80.	A. Kadlecek. Dr. C. M. Easton.
ebronemingford	Boxbutte	4, 256	1		*******			*****			0.97		0, 29	0.0	11			****		A. S. Enyeart.
endley	. Furnas	2, 231	6	63.2	******	94	16	31	26	53	1.37		1.25	0.0	8	16	6	8	ne.	Mrs. M. R. Lloyd
illaideoidrege	Phelps	2, 324	18	66.6	- 1.0	97	30	40	27 27 26 27	44	0.93	- 1.17	0.30	0.0	7	12	4	14	80.	Mrs. M. R. Lloyd. Chi., Burl. & Quincy R
ooper	. Dodge	1, 228	13	63.8	+ 0.1 + 1.9	97 91 96 94 95	17	34 37	27	40	1.58	+ 0.30 + 0.23	1.52	0.0	10	15	7 9	8	se.	Dr. W. Howard Heine. Robt. Malcolm.
nperialearney	Chase	2, 146	20	68.0	+ 0.7	94	71	38	27	41	2.61	- 0.13	1.30	0.0	9	14	13	3	SW.	N. C. Dunlan.
imball	. Kimball	4,007	21	63. 2 65. 0	+ 2.2 + 2.2	95 100	16 16	- 34	26 28	54 53b	1.83	+ 1.20	0.58	0.0	6	16	11	3	W.	F. J. Bellows.
irkwood	Rock	*** ******	. 2	00.0	T 4.4	100	40	*****			1.20		0.37	0.0	5					Mrs. C. Arter. Geo. W. Hulse.
exington	Dawson	2, 385		66. 4 66. 6	+ 2.6 + 1.4	96 92	17	38 39	26† 27	45 33	2.14 5.06	+ 0.07 + 2.42	0.72 3.91	0.0	9	23 12	5	7	sc. s.	Robt. Chadwick. U. S. Weather Bureau.
odgepole	. Lancaster			65.3	+ 4.4	98 94	91	34	27	52	2.04	+ 0.84	0.64	0.0	6	14	11	5	e.	R. T. Kidney.
oup	Sherman	2,067		64.4	+ 0.5	94	17	36	27	41	1.45	- 1.56	0.75	0.0	6 3	13	12	5 5 7	80,	E. S. Hayhurst. C. H. Cass.
oyalcCook	. Custer	2,506	15	67.3	*******	98	8	33	27	48	0.72	- 1.18	0. 34	0.0	3	20	5	5	s. se.	C. G. Coglizer.
cCool Junction	York	1,575	12	******			12	98	97		4.89	- 1.18 + 1.15	3.24	0.0	8					L. L. Slagle.
adisonarquette	Hamilton		31	63, 20	- 0.3	90	17	36	27	354	3, 60	-0.17 +1.03	0.75 2.78	0.0	5				se.	Dr. F. A. Long. John Ellis.
ason City	Custer	2, 257	9	*****	*******						1.64		0.88	0.0	6					J. A. Amsberry.
inatare	Scottsbluff	3, 825	33	66.6	+ 1.7	95	161	38	27	38	1.89	- 0.78	1.18	0.0	7	8	14	8	8.	Anthony Kennedy. Joel Hull.
indenitcheil	Scottsbluff		. 3	62.0		96	7	24	26	54	1.64		0.62	0.0	5	20	6	4	80.	U. S. Reclamation Serv
orrillebraska City	do	*** ******	33	66.7	+ 0.3	91	17	34	26	194	5.00	+ 1.25	3.75	0.0	5	14	7	9	8.	Chi. Burl & Outpey P.
orfolk	Otoe	1,532	27	62.1	- 1.3	94	17	33	26 27 26	45	2.32	- 0.68	0.62	0.0	6	17	4	9	8.	Edwin K. Wieland, jr. Chi., Burl. & Quincy R. Dr. P. H. Salter.
orth Loup	Valley	1,961	36	65. 2 65. 0	$+1.0 \\ +1.8$	93	17	42 39	26 27	43	1.51	- 0.56 - 0.53	0.57	0.0	5 7	13 15	15	9	ne. se.	W. G. Rood. U. S. Weather Bureau.
orth Platte	Antelope	1,722	23	61.9	- 0.7	90	17	33	27	41	1.13	- 1.12	0.62	0.0	9	12	10	8	8.	G. S. Clingman.
dell	Gage	1, 278	16 40	66.2	+ 0.4	91	17	42	27	27	2.71 3.43	- 0.45	0.98	0.0	8	11	8	17 8	8.	Chi., Burl. & Quincy R. U. S. Weather Bureau.
mahard	Valley	2,062	16	00.2	T 0. 4						2.78	- 0.45 + 0.40 + 0.11	0.82	0.0	8	13	6	11	8.	James Milford.
rleans	Harlan	1,993	2	45 61			17	49	98	941	3.05 2.25		2.34	0.0	4	****		****		James McGeachin.
ceola	Polk		12	65. 61		90	17	43	25	94.		- 1.07	1.70	0.0	5					G. T. Ray. E. E. Young.
alisade	Otoe	1, 142	15	65. 9	+ 0.4	90	17	40	27	40	7.27 3.54	+3.47 +0.30	6.34 1.72	0.0	7	15 17	12 5	8	8.	Thomas Coles. Frank A. Barton.
awnee City	Pawnee		1	66.4		92	111	32	27	40	1.08	T 0.00	0.40	0.0	9	**			B.	H. D. Lute.
ymouth	Jefferson	1,419	6	66.1	*******	93	19	37	27	37	4.00	0.50	2.85 0.36	0.0	8	11	5		90.	John Ruppel. T. C. Jackson.
ırdum	Blaine	2,028	33	64.5	+ 1.2	96 95	16 7†	36 37	27† 27	48	1.27 2.31	- 0.58 + 0.12	1.29	0.0	10	18	3 9		8W.	H. G. Smith.
edcloud	Webster	1,687	18	68.4	$^{+\ 1.2}_{+\ 1.5}$	96	17	37	27	40	3. 18	+ 0.35	2.00	0.0	11	16	6	8	ne.	Chas. S. Ludlow.
. Libory	Howard	1,887	15	66.4	+ 0.3	97	17	37	27	41	2.00 1.56	- 0.83 - 1.06	1.05	0.0	8 7	14 18	13		se.	W. I. Meader. Paul Anderson.
ntee	Knox		22	64.2	- 1.0	101	17	32	27 26	47	1.50	- 0.68	0.95	0.0	3	12	16		se.	Nat H. Neff.
huyler	Custer	1 357	13	63. 0° 64. 6	*******	93 93	17	26 33	26			- 0.21 - 0.93	0.55	0.0	6	15	5	10	se.	Jas. L. Ferguson. John T. Sumner.
ottabluff	Scottebluff	3, 888	4	63. 6		56	16	25	26	54	1.15		0.53	0.0	12	16	9	5	80.	A. B. McCoskey.
ward	Seward	1,435	20	66.1	- 0.8	98	15	38	27†		4.35	+ 1.10	1.60 0.70	0.0	5	19 12	10		80.	Chi., Burl. & Quincy R. J. C. Harris.
eridandney	Wheeler	4,090		******			****		****		1.92	+ 0.86	0.50	0.0	9	20	9	1	se.	John P. Fischer.
ringview	Keyapaha		17	64.0	+ 0.6	96 89	16 18	34 33	27 27	48 36	0.24 3.38	- 1.13 + 0.39	0.13 0.90	0.0	3 5	13	11 8		n. s.	C. L. Phelps. Alfred Pont.
anton	Stanton	2, 804	15	61.9	- 2.2	89	18	33	24	30	1.93	+ 0.39	1.03	0.0	3	10				Miss Stella Vennum.
perior	Nuckolls	1.574	25		******								*****		****	15	10	5		F. V. Bishop. E. D. Howe.
hleroek	Pawnee	1, 113	32	66.9	- 0.1	93	17	32	27	50	4.81 5.97	+ 1.58 + 3.18 + 0.74	2.31 2.85	0.0	8	15 12	10	11	8. 80.	Chi., Burl. & Quincy R.
kamah	Burt	1,060	20	64.4	- 1.1	91	17	33	97		3.55	+ 0.74	1.40	0.0	8 5	12	13	5	5.	Dr. A. D. Neshit.
biasrlington	Saline	1, 214	18	67.8	- 1.0	94	17†	38 37	27 27 27 27 27	36°	3.98 4.52	+ 1.00	2.45 3.54	0.0	7	14	6		S. SC.	Frank Ainsworth. Wm. N. Hunter. S. W. Perin.
niversity Farm	LancasterCherry		25	66.4		90	17	37	27	34	4.42	+ 1.78	3.19	0.0	9	15	4	11 .		S. W. Perin.
dentine	Saunders	2,613	22 8	62.2	- 0.1	95	16	33	27	46	0.67 4.37	- 1.12	0.25 2.70	0.0	7	14	12 11		8W.	U. S. Weather Bureau. W. T. Mauck.
ahooakefield	Dixon	1.387	16	62.4	- 1.3	91	17	31	27	44		+ 0.23	1.59	0.0	4 7	18 15	6		8.	I. H. Weaver.
althill	Thurston	9 900	8								2.39		1.40	0.0	4	15	12	3	nw.	H. L. Keefe. R. E. Swift.
uneta	Chase		11			******		*****			3.20	+ 1.36	0.85	0.0	5 7					C. D. Fuller.
epingwater	Chase	1,060	33	67.0		94	18	33	27	41		+ 0.11	2.17	0.0	7	17	3		se.	S. W. Orton. Mrs. Eli Votaw.
stpoint	Cuming	1,313	24	65. 2	- 0.4	92	17	35	27	41	4.53	+ 1.55	1.54	0.0	7	19	6		8.	J. C. Elliott F. C. Evans.
aner	do	1,380	14								2.55	- 1.56	0.82	0.0	6					F. C. Evans.
oodlawnork	York	1.633	21	67.0	+ 0.1	94	17	38	27	37	2.94 3.07	+ 0.06	1.48	0.0	6 7 5	13 15	8		80.	H. C. Kendall. A. T. Giauque.
Iowa.																				
ton[Union	1, 513	16	65.8	- 1.1	85 92	111	39	27 27	28 33	7.43 3.51	+ 3.78	3.76 0.98	0.0	7	13	3		sw.	N. W. Rowell. Mrs. Geo. Shriver.
ton	Sioux	1,305	5	61.2		89	18 17	31	27	41	2.16		1.09	0.0	9	12	9	9	80.	W. S. Slagle.
lantic	Audubon	1, 104	19	62.4	- 0.8	88 89	17† 21	34 36 31	27	38	4.02	- 0.54 + 0.89 + 0.65	1.78	0.0	8 9	10 17	6		ne. se.	Thos. H. Whitney. Geo. E. Kellogg.
dfordinterville	Taylor		10	66.3	+ 1.7	98	18	31	27 27	46	4.00	+ 0.65	2.57	0.0	8	12	9	9	8.	Geo. E. Kellogg. E. E. Healy.
nterville	Appanooss	1 042	15	65.6	+ 0.1	0.3	18				2.45		0.75 0.90	0.0		18 16	1 0		8. 80.	Gordon Peacock, jr.
arinda	Page	1,000	20 18 17	60.3	- 5.9	93 95 87 90	18	37 34 33 37	27	40	4.11	+ 1.42	1.75	0.0	8 6	12 16	3 4	16	8.	C. C. Burr. A. S. Van Sandt.
rnings	Adams Wayne	1, 117	18	63. 2 65. 6	- 1.6	87	117	33	27	49	3.71 2.76	+ 0.75 - 0.83	2.40 1.12	0.0	6 8	16	3	11 13	se.	Jerome Smith. Clara Miller.

Table 1.—Climatological data for September, 1910. District No. 6—Continued.

			yrs.	Tem	perature	, in de	grees	Fahr	renhe	it.	Prec	ipitation	, in in	ches.	days.		Sky		don.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy da	Number of clear days.	Number of part-	Number of cloudy days.	Prevailing wind direction.	Observers.
Iowa—Cont'd.	Pottawattamie			64.4		91	2	32	27	40	3.78		1.34	0.0	8	16	3	11	se.	B. W. Crossley.
reston	Union	1,312	10	63.8		99	15	34	27	49	6. 23 5. 00	+ 1.36	1.98 2.24	0.0	10	11	7	14	8.	O. J. Colby. J. H. Reppert.
enison	Crawford	1, 180	16	62.6	- 1.1	86	171	33	27	35 42	3.37	+ 0.37	1.21	0.0	7	21 17	4	5	8.	W. C. Van Ness.
liottreenfield	Montgomery		18	64.4	- 2.1	86 87 85 89 90	174	36 34	27 27 27 27 27 27 27	31	2.81 5.08	+ 1.67	6.88 2.13	0.0	8	12	8	9	ne.	Henry Barnes. R. B. Oldham.
arlanf	Shelby	1, 192	11	63.2	+ 0.2	89	30	32	27	35	3,23	- 0.48 + 2.18	1.06	0.0	10	11	9	10	S.	C. A. Reynolds.
opeville	Clarke	1 474	19	65.0 62.1	- 1.4	93	117	36 31	27	34 41	5. 67 3. 56	+ 2.18	2.95 1.91	0.0	8	18	11 8	10	8.	M. T. Ashley. F. B. Hanson.
wood!	Decatur		3	65.2		90	11	36	27	36	4.77		1.79	0.0	7	16	1	13		T. J. Fitzpatrick.
rrahee	Cherokee	1,266	20	61.3h	-1.5 -0.9	85	17	33 35	27	34h 32	2.75	- 0.67	0.90	0.0	6 7	11	12	7	8.	H. B. Strever. G. A. C. Clarke.
Marsi	I AVIOF	1, 250	15	65.0	- 0.3	90 85 83 87	171	34	27	31	4.04	-1.71 + 0.71	2.65	0.0	7	15	5	10	8.	J. L. Hurley.
on	Decatur	1, 120	8	64.0k		90	20	36	27 27 27 27 27 27 27	36k	4.25	- 0.55	1.70	0.0	5	16	2	12	*****	Morris Gardner.
		928	43	64.6	+ 0.1	90 89	17† 17	33 32	27	40 37	3.38 4.06	+ 0.81	0.87	0.0	8 9	11	13	6	ne.	Geo. H. Gibson. Glenn H. Stern.
assenaf	Cass		17			*****														C. E. Smeltzer.
ount Ayridebolti	Sac	1, 236	17	66.0 63.7	-0.7 + 0.2	94 89	18	37 36	27	33 37	6.74	+ 3.21 + 0.82	2.70 1.53	0.0	12 8	14	6	11 6	sw.	A. F. Beard. E. Starner.
nawas acific Junctions	Monona	1.051	10	65.2	0.0	89	17	36 35	27	39 35	3.37	- 1.43	1.00	0.0	9	17	7	6	se.	C. G. Perkins.
cific Junction	Mills Lyon	960	11	64.0	-0.5 -2.9	87	114	33	27	35	2.79	- 0.39 + 0.28	1.75	0.0	3	11	18	1	S.	H. H. McCartney. W. C. Wyckoff.
ock Rapids	O'Brien	1,422	10	62.2	+ 0.7	92	17	32 30	27	45	3.95	+ 0.28 + 0.26 + 0.01	2.50	0.0	12	14	7	9	8.	W. C. Wyckoff. Dr. A. W. Beach.
blev	Osceola	1, 212	17	58.8	-1.9 + 0.1	89 89 87 92 92 87 87	17	31	27	46 34	3.38	+ 0.01	1.30	0.0	6	13	8	9	6.	H. G. Doolittle. J. de Ruyter.
oux Centers	Sioux	1, 135	11 21	61.4	- 1.5	92 88	17	32 39	27 27 27 27 27 27 27 27 27 27 27 27	34	3.93	+ 1.46	1.80	0.0	9	12	6	12	8.	U. S. Weather Bureau
hurman	Fremont		13	65. 1	- 0.7	88	17	32	27	35	2.91	- 1.88	2.06	0.0	8	13 15	6 7	11	nw.	C. R. Paul. H. L. Felter.
ashta§oodburn§	Cherokee		12 11	63.0 64.2	*******	88 92	17 11†	31 30	27 10	44	4.53	$ \begin{array}{c} -1.88 \\ +0.31 \\ +0.53 \end{array} $	2.10 2.12	0.0	12	13	9	8	8. 8W.	C. B. McDonough.
Kansas.													1.86	0.0	7	9	8	13	5.	
gricultural College	Dickinson	1, 100	15 52	68.7	+ 0.5	94	18	33	27	44	4. 24 2. 79	+ 1.43	1.31	0.0	6	14	6	10	sw.	T. W. Sherman. Prof. J. O. Hamilton
ton	Osborne	1,651	8	70.8		101	13	38	27	42 34	2.10	- 0.32 + 0.02 + 3.46	0.85	0.0	8	12	10	8	S.	H. A. Storer.
chison	Atchison	973	19	69. 4 65. 2	+ 0.6	92 91	18	39 35	27 27 27	44	7. 19 6. 90	+ 3.46	3. 10 2. 18	0.0	8	18	1	8 21	8.	Prof. M. F. Troxell. E. A. Bastien.
loit	Mitchell	1,383	15		*******															W. H. Houghton.
akeman		2,894	13	67.2	*******	96	71	32	27	53	1.11	- 1.29	0.52	0.0	6	20	2	8	se.	C. L. Henderson. M. Norton.
ue Rapids			1			*****	****	*****					******			****				L. E. Hasen.
apman	Dickinson	1, 113	6	69.7	******	95	18	39	28	43	3.14		2.12	0.0	7	18 12	4	14	8.	Dr. R. McShea. O. L. Slade.
ay Center	Clay	3, 138	19	68.7 67.6	+ 2.2	97 99	18 7	32 37	27 27 27	46	3.23 0.96	- 0.45	1. 10 0. 37	0.0	5	17	9	4	8.	R. M. Chelf.
oncordia	Cloud	1.398	26	68.2	+ 0.1	94	18	38	27	36	1.59	- 6.99	0.54	0.0	8	8	15	7	80.	U. S. Weather Bureau
ensmore	Norton Decatur	2,200	16	70. 2d 67. 2	+ 1.1	102 100	8 7	41	26 26†	45d 45	5.07 2.29	+ 0.40	1.62	0.0	8	13	3	14	8W.	F. S. Griffith. Jacob Bock.
lsworth	Ellsworth	1,537	6	68, 2		99	18	31	27	44	2.37		1.04	0.0	6	13	15	7	S.	Geo. Seits.
nterprise	Dickinson		8	69.5	*******	96	18	35 41	27 27	45 32	3.55	+ 0.74	1.73	0.0	8	12 13	11	6	8.	H. O. Wagner. Geo. D. West.
kridge	Lane	2,850	9	72.2	******	99	22 7†	42	10	49	1.57		1.20	0.0	7	16	12	2	8.	C. M. Jennison.
. Scott	Bourbon	857	35 16	70.6 68.1	- 0.8 - 0.4	99 94 95	19 18	38 33	23	46	8.08 2.73	+ 4.61 - 0.79	2.07 0.62	0.0	13	17 14	11	10 5	ne. sw.	E. A. Shaver. E. C. Dunham.
ankfort	Anderson		4	69.3	- 0.4	93	17	40	27	32	7.42		2.17	0.0	11	10	16	4	8.	D. D. Judy.
oodland	Sherman	3, 687	3 21	68.4	*******	93 103	17	37	26	46 50	1.07 0.63	- 1 61	0.55	0.0	6	18	7	5	8. 80.	G. C. Calvert. Jesse Royer.
anover		1, 225	13	69.8	+ 1.5	97	18	35	29 27 27 26 27 27 27 27 27	41	4.35	-1.61 + 1.30	2.70	0.0	7	15	6	9	8.	August Jaedicke, jr.
arrison	Jewell	1,804	9	67.5		97	18	36 36	27	38	2.88		1.92	0.0	9 7	13	9 5	8	se. sw.	Mahlon Tegley. G. K. Helder.
il City		2,000	42	68.0	- 0.2	100	18	30	21			- 1.13	0.44	0.0		10				I. R. Mort.
orton	Brown	1, 188	21	68.0	- 0.2	93	18	39	27	22	7.21	+ 3.65	2.32	0.0	8	16	7	7	8.	I. R. Mort. Mrs. S. C. Belden. C. T. Dallam.
oxiewell	Sheridan	2,700 1,540	12 5	70.0° 68.3	+ 3.1	100	18	37 32	261	48	1.24	- 1.68	0.28	0.0	3 7	14	6	10	8W.	C. A. Shinn.
wrence	Douglas	997	42	68.1	+ 1.0	92	4	39	27	30	6.93	+ 3.24	1.89	0.0	10	12	11	7	8.	C. A. Shinn. Prof. H. P. Cady. Earl V. Bower.
banon		1,812	12	71.4	******	98	16	40	27	40	3.49	+ 0.80	2.34	0.0	4	21	8	.1	w.	N. S. Weddle.
ndsborg	Jewell	1.784	1	66.4	*******	98	17†	36	27	47	2.21		1.00	0.0	9	13	11	6	8.	N. S. Weddle. R. M. Cauthorn.
nneapolis	Ottawa	1, 259	20 14	67.7	- 1.2	94 95	11 19	34 41	27	41 31	1.49	- 1.09 + 2.54	0.84 1.63	0.0	8	12 14	12	14	8W.	J. L. Steele. C. J. Norton.
toma	Osborne	1,098 1,834	1	71.4	+ 1.3			41			1.20	+ 2.54	1.00	0.0	2	23	5	2	80.	C. O. Hunt.
rton	Norton	2, 284	12	68.6	+ 2.0	100	7	40	26†	42	2.91	+ 0.62	2.36	0.0	5	12 18	16 10	2 2 7	#e. #e.	Sim Sleffel. I. K. Huber.
erlin	Decatur	2,539 1,194	23	69.0		94	18	35	27	38	1.42	- 0.38	1. 23	0.0	8	9	14	7	8.	J. A. Church.
the	Johnson	1,032	15	68.6	- 0.2	93	41	39 36 36	27	30	6.86	+ 3.46	1.44	0.0	11	14	6 2	10 12	sw.	Dr. S. B. S. Wilson. W. C. White.
age City	Osage Franklin	1, 081 926	11 16	68.0	+ 0.8	94	18	36	27	46 38	7. 22 5. 70	+ 2.98	2.90	0.0	10	16 12	14	4	8.	Herbert F. McDouga
illipsburg	Phillips	1, 939	19	69.8	+ 2.4	100	6	38	27 27 27 27 27 28 27 27	49	5.04	+ 2.98 + 1.90 + 2.27	3.52	0.0	9	14	8	8	80.	N. E. Bailey.
asanton	Linn	862	8	68.4	T 10	100	18	40 34	28	28 42	8.50 0.70	- 1.89	3.15 0.43	0.0	11	17 15	8	8 7	8.	B. F. Blaker. Robert Brebner.
ssellssell Springs	Logan	1,000	-	68.5	+ 1.0	97	17†	35 36	27	44	1.05	4.00	0.39	0.0	5	20	6	4	ne.	D. J. Hutto.
Francis	Logan Cheyenne	3, 288	2	68.0		97	16†	36	26†	50	1.67		0.58	0.0	9	10	16	4	80.	J. E. Uplinger. Prof. A. W. Jones.
tt	Saline	2, 971	26	69.3		98	17	37	27	48	1.32	*******	0.57	0.0	6	19	8	3	8.	J. P. Loughran.
ith Center	Scott	1,800									4.59		3.29	0.0	5	18	10	8 5	80.	W. H. Nelson. U. S. Weather Bureau
			24 11	68.0	+ 0.7	92 91	11 18	35	27 27	31	5.63 3.67	+ 2.07 - 0.41	2.36	0.0	10 8	15 15		4	80. 80.	Miss Nettie Maxwell.
land	Douglas	880	1	68.4		90	41	36	27	34		+ 0.28	1.98	0.0	11	11	11	8 5	8.	A. Schick.
keeney	Trego	2,456	27 40	69.5	+ 0.7	98 100	4† 7† 7	38	27 27	43	2.28 1.24	+ 0.28	0.92	0.0	8	21 6	22	2	8. 80.	A. S. Peacock. M. T. Griggs.
megof	Snawnee Jefferson Douglas Trego Wallace Pottawatomie	1,002	17	88.0	*******	100		39		46	4.88	- 0.08 + 1.42	2.30	0.0	8	12	ii	7	sw.	M. L. Stone.
onet		980		80 4		69		40	97		6.40				0	14	10	6		Darby Fruit Farm.
pleton City	St. Clair	850 853	20	70.8	+ 0.2	93	1	40	27 27	36	6.98	+ 3.66	1.95 2.30	0.0	11	14	14	4	s. n.	T. C. Brown.
ington	Bates St. Clair Phelps Vernon Livingston Miller	695	20 .				****	*****				*******				10		3		George V. Randolph. J. T. Armstrong.
alon	Livingston	767	18 25	71.0 67.8	+ 2.1	92 94	18	40 39	28 27	36	9.00	+5.41 + 0.38	2.41 1.53	0.0	10	10 15	17	8	ne. sw.	F. G. Ashbaugh.
gnell	Miller	594												*****					*****	W. S. Brockman. W. H. Skinner.
thany		881	20 .						_								Barrier and			

TABLE 1 .- Climatological data for September, 1910. District No. 6-Continued.

			É	Tem	perature	, in de	дтеся	Fahr	enhe	it.	Pre	cipitation	n, tn in	ches.	5		Sky		4	
		feet.	record, yr		from al.					ally		-	2	7.	rainy da	AVE.	part.	ya.	wind	
Stations.	Counties.	Elevation, f	Length of re	Mean.	Departure f	Highest.	Date.	Lownst.	Date.	Greatest da	Total.	Departure from the normal.	Greatest in hours.	Total snowf	Number of	Number of	Number of	Number of	Prevailing	Observers.
Missouri-Cont'd.		***											9 00							C P
onville	Cooper	652	34	67.2	- 1.0	91	181	41	27	42	9. 52	+ 5.12 + 2.98	2.88 1.90	0.0	10	9	8	13	ne.	C. Randecker. Louis Benecke.
inton	Henry	800	24	70.0m		9.4	4	42	27	34m	10, 14	+ 7.04	2.95	0.0	9	5m	8m	4m	8.	Dr. G. W. Menees.
olumbia	Boone	784	21		- 0.4	89 95 93	18	42	28		19, 36		2.98	0.0	12	15	2	13	8.	U. S. Weather Bureau
onceptions	Nodaway	962	26	67.2	+ 0.4	95	18	38	27	32	3.09	- 0.22	1.40	0.0	6	11	7	12	50.	Fr. Adhelm Hess.
Dorado Springs	Cedar	750	5	71.6		93	17	45	271	33			1.62	0.0	7	13	10	7	SW.	Samuel Graham.
irport	De Kalb	920	16	******	*******						4.48	+ 0.13	2.14	0.0	7	14	3	13	sw.	J. W. Lincoln.
yettef		725	27	66.8	- 2.1	88	18	43	271		11. 15	+ 6.89	2.43	0.0	12	14	2	14		Prof. T. Berry Smith.
ilton	Callaway	818	19	68.3	- 0.4	90	18	29	29	28p	11.32	+ 7.77	4.63	0.0	12	76				Dr. J. L. Brenneman.
asgow	Howard	618	33 18								7.91	+ 3.94	1.94	0.0	12	14	6 2	10	80.	J. J. Shaughnessy.
ant City	Worth		38	68. 2		93	4	38 41	27 28†	34 40	3.47	-0.28 + 3.51	1.43	0.0	15	9	i	20	nw.	W. H. Campbell. A. J. Sharp.
arrisonvilless	Cass	912	17	-	- 0.1	9/3		*1	201	40	3.61	- 0.26	1.60	0.0	9			20	e.	W. H. Baker.
aselhurst	Livingston		36	******	******		****		****	****	9. 22	+ 5.44	3.50	0.6	14		5	16	0.	C. T. Maushund.
puston	Texas	1, 280	18	70.8	+ 2.2	90	124	47	101	37	3.50	- 0.20	0.90	0.0	9	7	20	3	SW.	E. Dempsey.
untaville	Randolph		8	10.0		-			101		0.00	0.40	0.00	0.0						F. H. Hammitt.
fferson City 11	Cole	628	29	67.8	- 1.3	91	18	39	28	43	5.82	+ 3.01	1.16	0.0	12	16	0	14	n.	Miss Emma Swift.
aneae City	Jackson	963	21	68.6	+ 1.1	91	4	44	27	25	5, 92	+ 2.16	2.61	0.0	13	10	11	9	80.	U. S. Weather Bureau
dder##	Caldwell		20	67.6	+ 0.3	92	18	38	27	34	4.41	+ 0.46	1.55	0.0	14	12	8	10	SW.	J. F. Sharp.
monte	Pettin	863	22 22 28	69.2		90 87	41	40	27	33 37	9, 66	+ 5.77	2.25	0.0	11	10	12	8	ne.	J. R. Wade.
banon	Laciede	1, 265	23	65.6	- 1.5	87	4	44	29	37	7.11	+ 3.43	1.55	0.0	10	11	7	12	8-	M. W. Serl.
xington	Lafayette	813	28	68.2	- 0.1	91	18	40	27	33	7.56	+ 3.33	1.86	0.0	12	9	0	21	8.	J. W. Keithley.
berty	Clay	864	22	69.4	+ 0.3	93	18	40	271	365		+ 1.48	1.68	0.0	9	146	10b	46	e.	W. C. Wilmott.
ckwood	Dade		16	72.8		91	41	42	28		2.89	- 0.59	1.15	0.0	3	18	4	8	ne.	C. S. Crow.
arshall	Saline	779	20	67.6	- 0.8	89	30	41	28			+ 6.54	3.52	0.0	9	14=				Dr. W. H. Black.
arshfield	Webster	1,492	2	72.1		94	18	46	28	37*			1.17	0.0	11	11	11	8	sw.	Dr. O. P. Keller.
aryvilless	Nodaway		20	63.4	- 2.5	95	19	38 50	271	47	3.97	+ 0.43	1.45	0.0	11	***		***	A.	J. R. Brink.
ount Vernon	Lawrence		34	74.2		94	41	50	27	34	3.76	+ 0.24	2.10	0.0	5	19	6	5	sw.	O. L. White.
evada	Vernon	860	16 55	65.2		90	****	34	27	34	6.41	+ 2.61 + 1.81	2.12 1.15	0.0	7 9	15	12	3	sw.	C. Jewell.
egon			11		- 1.8	50	10	34	24	3.8	7.05	+ 3.54	1. 25	0.0	13	13	3	14	se.	Tom Curry. W. E. Matthews.
ceolattonaburg	St. Clair		**						0000		4.44	7 0.04	2.15	0.0	8	12	4	14	50.	Wm. Burton.
lla	Phelps	1 002	29	70.4	********	00	12	46	28	33	4.92	+ 1.16	1, 32	0.0	10	16	3	ii	aw.	Prof. P. J. Wilkins.
Charles	St. Charles	614	32	70.3	+ 4.1	91	81	44	28	33	6.41	+ 3.70	4,09	0.0	7	14	9	7	8.	L. C. Saeger.
Joseph	Buchapan		39	68. 2		93	18	41	27	32	6, 00	+ 3.01	1.71	0.0	11	10	8	12	se.	U. S. Weather Bureau
Louis	St. Louis.		39	70.4	+ 0.4	39	12	53	28	25	6.09	+ 3, 18	3,43	0.0	10	12	10	8	80.	Do.
blett	Adair		30	65.8	- 1.0	93 89 89	19	39	28 27	325	5.40	+ 1.29	3.00	0.0	8	10b	10b	86	80.	Lewis Spriggs.
	Grundy	812	15	66.3	- 0.9	88	18	40	97	27	3.49	+ 0.04	1.46	0.0	12	19	1	10	ne.	W. H. Estes.
ionville#	Putnam		17	65.0	- 2.6	91	18	38	27 27 28	42	4.82	+ 0.36	1.84	0.0	13	11	3	16	8.	Geo. W. Davis.
rrensburg	Johnson	883	32	69.3	- 0.4	90	30	42	27	32	8.73	+ 5.55 + 3.78	2.58	0.0	11	15	5	11	SW.	A. F. Smithson.
rrenton#	Warren	865	20	68.6	- 0.1	90	12†	45	28	36	7.45	+3.78	2.54	0.0	13	10		15	n.	Dr. John H. Frick.
AreaW	Benton	700	6	72.4		64	18	39	28	30	9.70	*******	2.74	0.0	11	10	11	9	SW.	Dr. J. R. Smith.
heatland	Hickory	920	18								5, 93	+ 1.91	1.47	0.0	10	16	9	5	8.	Mrs. S. A. Jackson.

*, b, *, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

* Precipitation included in that of the next measurement.

* Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

* Separate dates of falls not recorded.

† Data are from standard instruments not supplied by the U. S. Weather Bureau.

| Instruments are read in the morning: the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

| Estimated by observer.

| Precipitation for the 24 hours ending on the morning when it is measured.

| T. Precipitation is less than 0.01 inch rain or melted snow.

Table 2.—Daily precipitation for September, 1910. District No. 6, Missouri Valley.

															1	Day	of r	nont	h.													
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Wyoming.																							. 40			T.						
num	Powder				T.	****	****		T.			. 23					****						. 100	****								
nett	Big Horn North Platte	80			. 43	. 49														. 12							.00					
Creek Station	do	*** ****			****	****		****		****		****	****	****				****		****												
per	North Platte					****											· · · ·		· · ·		57	T		09		08						
yenne	North Platte South Platte North Platte Clark's Fork	T.	. 16	T.	T.			****	T.	****	1.	. 12	.04	. 25	. 05			.04		.00	.00	**	.70	. 51		.07						
gwater	Clark's Fork				.02							T.	. 22					****				. 17	. 24		T.	. 24						
iystal Lake	Big Horn				****			****			****		****	****				****		****												666
me Lake	South Platte Tongue North Platte Big Horn Tongue Powder																					T	90									
uglas	North Platte	T.	****	.08	T			T.		****		.35	.17	T.	. 02	****		****				1.	. 38		.02							
bois on's Ranch	Tongue											. 72	. 13								T.	T.	. 52			. 40						
eta	Powder				1. 10							. 20	****	23			. 18	****	.08		.08	1. 30	.09	. 34		. 20						
Mountainampment	North Platte	T.	. 22	.44	.01			****				. 01	T.	. 15			T.	. 12			T.			. 20								
ay	do	11			T.	. 05						.08	. 28	.02	T.				T.	T.	. 05		1. 27	1.02	.02	. 13						****
t Laramie	do		25	. 65	.32	.02			.01			. 03	. 14	. 27	. 10		.01	. 03	. 11	T.	. 02	.07	. 92		. 02 T.	. 12						
nters' Station	Big Horn	***			. 34	.08		T.	T.	****		. 31	1.	.07				. 10														
h	Niobrara	0							. 05			****	. 13	. 30	T.	***	. 18				.08			. 86		.07						
tley	Big Horn	***			T	****	****	****				. 28	. 40	. 29	T.			.00	****		T.	T.	. 20	. 00	T.	. 20						
win	Belle Fourche	***	1. 23		. 24	. 58						. 24	. 12				****	T.	****		T	. 34	1.27	. 05	. 03	.51	***		***			****
der	do. Big Horn Niobrara .do. Big Horn Belle Fourche Big Horn North Platte .do Big Horn do	···		10	T.		****	****	***	****		T.	.01	T.		****	.06	.07	.05		.10	.01	. 40		T.	1.	****					
ramie	North Platte	T.	T.					****			****		****	T.	T.								. 28	. 11		****						
lobama Ranch	Big Horn						****			****	****	****	98							****		. 20	. 10		****	. 15		1				
vell	NiobraradoBelle Fourehe	***		. 12			****						. 20	. 05									2.00									
nville	do	0							. 02				. 11	. 36		. 05	. 10				1.46		20	. 96		3.00						
oreroft	North Platte S. Fork, Cheyenne North Platte	10	15	01	. 10		****	****	.06			T.	. 10	. 26	. 05	.04	.04	T.	.02				. 28	. 65								
wcastle	S. Fork, Cheyenne																					. 15	. 21				. 12					
hfinder	North Plattedo							****		* * * *	****	****		.04		.00		.04	****			****	. 14			****						
llips	Big Horn North Platte	***			.47							. 24							. 04							****						
wlins	North Platte	10	. 05	.06	.40					****			T.	. 10	****		. 02		. 33	****	.04		.00	. 00		****		1				
erton	North Platte	03	20	. 25	. 10				****	****				.08			. 24	***	.27		. 10		. 13	****								
eridan	North Platte Big Horn North Platte Tongue Big Horn Powder North Platte Big Horn				. 54			T.				. 32	. 09			****		. 02				T.	. 30	****	. 22	.30 T.						****
oshone Dam	Big Horn	***			20	65				****		.21	. 20					T.			****	T.	. 20	. 04	T.	. 20						****
uth Pass City	North Platte	*** ***			T.									T.	.06	T.	T.				****		. 80	. 02		. 05						
ermopolis	Big Horn				. 19	.07		****			.08	.07	.01			****			****		****	.00	. 33	.01		.01				1		
lley	Cheyenne Big Horn		Sexes	EXXX													1.44.								1			1				
onaant's Ranch	Tongue North Platte				. 90						. 20	. 20 T.					1		. 170	le was al			. 40		. 58		***	2885		8888	****	
ley	Rig Horn		. 34	. 16																								Lex				
neotellowstone Park	Big Horn North Platte		. 15									T.	.06	.17	T.			.02	. 32		T	. 17	. 89		.10	02				****		****
llowstone Park 1) Fountain Hotel	Yellowstone				. 10		T.	****	****			.01	I.	. 10	. 10	. 15	.39	.02				. 21	. 69									
2) Grand Canyon	Yellowstone				T.								. 10	. 15	. 25	T.	. 20					· · ·	. 50	T.								
3) Lake Hotel	do				-08							****	T.	.14	. 19	T.	.10	.13	****	****	T.	T.	. 42	****								
4) Norris 5) Riverside	Madison	***		1	. 26												. 15	. 10					. 34		.20							
6) Soda Butte	Yellowstone Big Horn				. 10																											
7) Sylvan Pass 8) Thumb	Yellowstone				. 08								.01		.30		. 05		****			****	. 68		.08							
9) Tower Falls	do													. 01	.01	10	. 12	.04				T.	- 60		.08	T.	****				****	****
10) Upper Gey. Basin Montana.	Madison	***			T.			****	****	****	****			****		. 10					. 40							1	1	1	1	
ams	Yellowstone							T.											****			. 12				. 03						
el ricultural College	Missouri	9	1 .00	T.	. 25	.04												. 37	.17		. 10	.72	. 35							40000		
gusta	Gallatin Sun Milk	1.0				.04		.37					. 11			.06		. 39					. 55							000		
bb	Milk	5	0 .0	2	. 50	.02	. 30	. 85	. 05		T.	. 19				08		. 66	.00			. 14		****	1.30					T.		
ld Butte	Missouri Yellowstone		. 20		.12		.30					. 73	. 16	. 12									. 65			. 98				4		
Timber Creek	Yellowstonedo	3	9 . 15	5	. 03		. 35	. 68	.09		. 10	. 16	. 19	.06				T.				. 20										
lingsulder Nursery	Jefferson				****		****	1. 22	T.		****	. 17	.05 T.		****		T.		. 02		. 25		.50		. 34						. 03	
wen	do				. 14	4		. 02							. 10	. 02	. 36	. 07			. 15	.01			. 19	71						
dger oadview Exp. Sta	Yeliowstonedo				T			95				. 10	. 12					. 20		. 22		.00	. 80		. 20	. 60						
sby	do				. 17							. 58								. 01		.02	. 72									
steed	do	0	1 .10	3	. 27		T.	. 27	.04		. 12	. 58	.37	.01	T.				****				. 42		. 20	.92						
bin Creeknyon Ferry	Jefferson Missouri	5	i	****	. 12		. 03	. 14		****				leeve.				. 21	. 03		T.		. 34		. 27					. 0		
ecadetaract Creek	do	1.0	1 . 23	T.	.36	T.	. 14	. 56	.07		T.	. 60								****	T.	****	. 94		. 18	.00						
taract Creek	Jefferson Missouri		0		0.00		****	. 85			****	.35	T.		****	T.	T.	. 27	.06		T.	. 13	. 53		. 98					T.		
ester	do																															****
inook	Milk							****		****														****								
ar Creek	Missouri	***																							. 13							
mons	Milk	1. 7	2 .08	8	. 12		. 02	. 29	.42	.01		.50	.04				. 10													1	dess	
pper	Yellowstone	3			11		. 10	600	05		1 483	197	1 134	01				1 - 114														
ow Agency	Big Horn					. 05						.41	. 13										. 17		. 91					***		****
t Bank	Missouri																					****	***	. 2!								
cker	Marias Tongue		0																													
pine	Musselshell						***											T			****	T	19			.05	N	1000				
nton	Tongue	6	7		. 33		. 27	. 10	****			. 20			.01			.38	. 27		.72	.08				.71						
rty Creek	Musselshell	3	0 .00	3				. 49	.04			.07		. 05	.01			. 28	.04			. 28	.06		. 92	. 24				T		***
y Creek	Missourido	2	B		. 1 . 200		I come	1.02							***	N N N N			1 4 00	0 2 2 2	1 000		, 04		. 04	. 84			1 . 01			

TABLE 2.—Daily precipitation for September, 1910. District No. 6—Continued.

															1	Day	of m	onth	1.														1
Stations.	River basins.	1	2	3		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
		+	+	-	-	-	-	-	-	-	-		-	-				+	+	+	1	+	1					1	1	1			t
Montana-Cont'd. st Gallatin River	Gallatin	4	0		62			40	. 00			15	.01					. 20			45	23			. 14	. 70							
alaka	Little Missouri		0	3		. 10)		.00			. 54	. 22						.06			03 1	. 63	***	, 05	.90	. 12						
horn	Jefferson	6	8		. 75	T.		. 27				. 08						.06	. 15 .		04	1	. 25		.32	. 30							
ADS	Missouri				. 19							T.	01						12					T.	T.	. 12						****	1
lon	Yellowstone		0 .0				. 06	. 13	. 02		0 .0		.00			.10		. 10	. 10			03	17	**		. 01							
nily	Jefferson		34	1	31				. 40							. 10	. 37					35 .			. 54				T.				-
htail Creek	Yellowstonedo						1													***		-	-		54	.51						****	1
thead Creek								. 97										. 31		***	. 69	29	99			1. 25		1					1
syth t Benton	Missouri	. 0	5						. 35			. 00								. 60							. 36						
t Shaw	8un	. 1. 48	8	T.	. 20		T.	.11	T.			. 21	T.	T.				. 28	N K Y P	200.0			. 60		T.	T.							
ter	Big Horn																							***									
neilndive	Musselshell Yellowstone												T.			****			a section		***		***	***		****	96			****			
dhutte	Marias			.00	. 26	T.	T.	. 26			. 05							T.							.08								1
bam	Powder		0.5		0.8	. 19						16	93					T.				Г.	.56	.03		. 63							4
yling	Madison													T.	. 36		. 12	. 23 .	***		13 .		.35		T.	T.							-
at Falls	Missouri	1.00		Т.	.72		- 12	. 09	T.			T.		T							20		.84		1, 30	.04			T.	01			1
f Moon Pass f Way House	Missouri	44		A. A.	25	. 12	. 90	.43		****		. 30	.01	*				.03	. 67		19		35		. 21	. 57				.07			
lowton								. 70	T.			. 28	.00									35	.59		. 53								ŀ
770	Milk			. 02	. 20			.06			T.					T.		T.			02 .	01		T.	. 17				T.				1
ena hwood	Missourido	1.00			.08	90	. 22	. 15			. 27	. 02	***			1.	. 31	.07	.01	*** *	04 .	05	Γ. 35		. 25	. 30			1.				1
mepark	Jefferson				.45		. 90				. 24	. 10		.04			. 30					20 .	47			. 33							
tley	Yellowstone											.70	. 10	T.								15 .	28 .			1.35							1
es Canyon	Gallatin	. 61			. 67		. 40	.34			. 21	.70	T.	T.			.06	.11 .			71 .	13	04		. 54					T.			1
dan	Missourido			***		****					****		****			****	***		***					***	****		****	****	****			****	1.
ingston	Yellowstone	08	. 03		44		T.	.28	. 02		T.	. 27	.02	.06	.04	****	T.	. 12	.04		05	06	04	T.	. 02	1. 19			T.	T.			T
lge Pole Creek	do																																
etree	ALISSOUPI	. 50	и . ао		. 35				. 07			.09						. 16			09	32	20 .		. 00	. 15							1
t Horse Creek	Musselshell	. 18			.03		. 38	. 92				. 28	.01						.02		03 .								.02				1
dow Creek	Madison				****			. 10			****	****																					1.
stone	Musselshell							. 13			****	. 44						***	. 13			13 .	82 .		. 80	. 67							1
Ired	Yellowstone				T.								. 23	. 37								48 .	54	. 43	. 31								1
a City	Missouri				T.	. 05	****				. 10	. 26	. 13					40				44 .	23 .	***	.32	80							1
ria	Madison	00	. 33		. 57	. 20	****	12	.01	****		. 25	.01	****					10		: :	42	05	***	. 03	.30	****		****			****	1
	Yellowstone		. 20		. 10						. 08	.77	. 26	. 20	T.			. 24			37 .	28 1.	05 .			. 63				* × 4 +			
n Creek	Jefferson	. 23			. 24	****		. 29													34	2.	00 .		.33				.01				1
estone Pass	Missouri	. 54		T.	. 44		T.	. 69			7						***	.47			20				1.11				.07		****	****	1
mond	do				. 23	****	1.	. 10		****	1.			- 4 4 4	+ 5 * *						* * * * *	11		****		***					****		I.
Lodge	Yellowstone																																
se Creek	Gallatin	****				****	****												***							02			T	****			1
ova	Jefferson	.30						. 92			****										37 .	08 .	13 .		. 50	.27			T.		****		
gate	Missouri				. 15		. 08		+***												1.	00	50	***	.75	. 75		****			****		1
an	Yellowstonedo													****					т.														
ngbrook	do						T.		. 16			T.									C.	20	70		. 16	40		****					1
ee Forks	Missouri	. 85			****				. 13	, 35		. 30		****		. 42							70 .			. 42		****	****			****	1
DA	Madison Yellowstone		***	* 5.00	***	****	****			****	.04			****				05			1111				.04								ľ
na . rnsend	Missouri		.40					. 70											15			45 1.	87 .										1
ll Creek	Yellowstone	. 26			. 90				. 01				.07					46			09 .	25											1
ntine	Missouri	. 42	. 46		.04		T.	. 06				.46						.05				28 . 03 7	04		. 10								1
inia City	Musselshell Jefferson & Madison	04			. 22		T.	.06				T.						27	04	***	80	17 .	10		T.	16			****				
inia City l Rock Mountain	Missouri	. 24			. 12			. 83				. 14						.05 .	30		06 .	89 .	53 .		. 41	.47							L
m Springs Creek	MadisonYellowstone	.08			.40			. 03				. 02		.02	. 03	.04		.54 .	04		07 .	32 .	24 .		. 34	. 14			. 01				Ł
ow Creek	Yellowstone	****	10					70	00									00			** **	07			Tr.			****		****		****	-
m Springs Creek ow Creek Creek Point	do	- 41	. 19		. 12		00		. 08		8 8 8 X	. 29					***	. 20	***		* * *	04	**	***	A	***	****		****	****			1
dville	Jefferson	.44			. 28		.00	1. 28				. 00				.06		40 .	10		34 .	22 .	04		.36								
orth Dakota.		1						-	-			_																					1
n	Knife				. 25	. 26						T.							Γ			D. A.I.	r. .			. 12	03	****	****	****			ı
hold Agency	Little Missouri		. 15		. 09	T.		.02			T	. 02	.04									1	r		T		.03						
narek	Missourido		T.		.42							. 22	T.												. 04	. 27	. 01						
eho	Knife			. 32	. 65																												
Harbor	Missourido				10			. 03	***																224								
inson	Little Missouri		T.		. 10	.11		T.			.05		.00			***		1	r.			11 7	1.		.02		. 02			T.			1
dy	James		1.26		. 03 1	1. 26						. 01		. 01									74			. 77	. 11						
ing	Missouri	. 04			T.	. 08	. 01	.06	T.										05			1											
rton	James	T.	1.54		. 21	. 44						. 23	.02									1.			.00	. 98	. 28						
inger	Grand Cannon Ball				.01						***	. 16	.00						r	11		12			1	.00	. 98						1
ard	Missouri	. 02				.06	T.	. 301.			T.											. 1			T.					T.			1
estown	James					. 61			2													18			T.	. 63	.00						l
oine	Missouri			1 00	T.	T. 1	L. 95														. T		44								- 1		
lenry	Jamesdo		02	1. 67		. 20	. 14					PWS				1	-		4		797	. 1.	10	- 4		-							
red	JamesdoSheyenne	T.	T.		T. 2							1.			***						. T	T	10			-							Ì
narth	Little Missouri				. 03	T.				.04		. 35	. 20			-		r	03		T		09		•	. 82				T.			
tonmoor	James		T.		T. 1	. 85						T									T		89		T.	. 23							
ora	Little Missouri				T 521	00	-		-			T					T .					1.4			.12								
	Cannon Ball	4440	T.		* 1	477					.40	T	.00		***		L	1		**	1.			**	. 16	49							
oleon	Missouri		. 05		. 80	.70						. 17										0			1	. 11							1
England	Cannon Ball		T.			.37						. 25	. 01								1	0 1											
Salem	Cappon Ball				. 19 1							T.									-	. 1			.04							* 6 1	
rmo	Cannon Ball Missouri			****								. 47				* * * 4			* * * * *	Y			12	4.0	T. 1.	. 15	. 03					***	
fer	Little Missouri											***	***		***																		
e	Missouri	T.																				1											
burn	do		* × + +		.18	.41																. T			. 03	.11				1			
ston	do				T.						. 01				***	***						T					***						
ok							- C - 12-																		erel.								-

Table 2.—Daily precipitation for September, 1910. District No. 6—Continued.

																Di	y of	mo	nth.													
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
a Balata Contid		+		-															1	+	1											
outh Dakota-Cont'd.	Missouri			04	.01									. 23	T.	T.						T.	1.50	. 07		. 13	T.					
exandria	James				. 65																		. 80									
dmore	Cheyenne	***			30			,							. 50				.05	***			1.00	. 10	.10	****		1				
mourlle Fourche	Missouri	***	13	3	25	. 23			****			. 22	.08					. 05				. 17	. 86			.70						
ookings	Big Sioux				. 27											. 12							. 44			. 13	T.					,
ookings	Big Sioux Little Missouri				. 21							. 37	. 33						. 05			T.	. 39	79	7 67	. 95	01					****
nton	Big Sioux	***																						. 19	1.00	.08						
-tlowood	Big Sioux	***	.01	i	. 15			1					.01	T.		.08	T.	. 03					. 58	T.	T.	.37	. 08	T.				
nterville	Big Sioux Missouri	T.		. T.	.06	. 03			T.			T.	. 03	. 03	.01	.08						T.	. 75	. 10	T.							
amberlain	James	***			7		****		***			T						* * * *	T.				Z. IU	16		1 04				****		
arkttonwood	Missouri	04	.00	0	T.	. 02			****		****	1.	T.						T.	****	***	T.	. 70	. 02	1000	. 10	T.					
row Creek	do	***												1									1.12				T.					
aviston	Grand		. 34	4	T.	. 63						. 10	.07									. 03										
adwood	Cheyennedo				8	1. 25	****		****			. 25							. 12	05	T	. 05	1.50 T		18	. 40				***		****
erfield	James	T.			15	.20	****			****		.00	T.		T.			****	. 12	.00	*		. 68	. 02	. 15	.00						
owling	Cheyenne				. 18												. 10						. 52	T.		. 20						
mont	do					. 51						. 16	. 03										. 41	. Ud		. 22						
k Mountain	do	T.				. 10				****					. 10			****				. 11	. 04			. 10		***				
k Point	Missouri Cheyenne	***					****		****	****		. 20	.30	10						***	***	.80	. 60			.50	.90)				
nglewood	Missouri		. 80	6	.07	. 94						. 11										T.	. 57			1,00	. 10)				
ulkton	Missouri		. 00	3		T.							. 03									. 02	. 51			. 32	.06					
andreau	Big Sioux		. 00	5	. 50	. 09										75							1.17	T		22						1
orestburg	James Cheyenne				16	78	***	****				18	28			1.			T.					.40		. 40		1				
ort Meade	James					. 44						.09										. 53			. 81							
anvalley																				1		. 10	1,60			. 12						
reenmont	Missouri			1		. 10						. 18	· · · ·	·				****					1 19			26	. 06			00	9	
reenwood	Chevenne	01	00	I.	1.11	97	****					01	.00	34	****		***				. 28		. 11		. 03	. 39						
ardy Ranger Station. arvey's Ranch	Cheyennedododo		. 02		.02																											
ermoss	do	01			. 12								. 03		. 02							. 17		. 02								
ghmore	Missouri					. 02							. 02					.02		01		. 03	. 60	00	00	1.17	.00					
ill City	Cheyenne		. 02	2		.09	****					.00	T.	.01						.01		13	74	. 02	. 02	14						
opewell	James	*** ****			97	T					****	T.	T.			T.						T.	. 75	T.		.07	.01					
owell	do	т.			.01	T.							. 01									. 05	. 44			. 19						
owardowell	do	T.			. 03	. 01						T.	T.		T.		T.	T.				T.										
swich	White						****	****	****					09	09			****			***	25	99	07		13	.01			****	1	
adoka	Missouri	*** ****						****	****		****	****		T.	T.		****	***			***		1.34	T.		. 11						
dder	James										1			1											1							
mball	James Missouri James			T.										.11	T.				. 03		T.		2.03	, 02		. 14	11					
Delle	James	Т.	T.		T.	T.	****	****				90	T.			T.	T.				***	06	74			43	. 16					
mmon	Cheyenne Grand Missouri	***	.00	3	1. 30	1 45	****	04	****		****	32	.02				****	****	.05		***	.03	T.			1.08						
	Missouri			T.	. 39	1. 20		.01						T.		, 52							1.58			T.		. 54	j			
arston	do																						. 42			. 13						
ellette	James	T.	T.			T.		***					· m	T.		200	T.					T.	1 98			53	. 01					
enno	MissouridoJamesMinnesotaJames				. 38		***	. 52	T	****		****	T.	. 00	T.	08					***	****	. 34			.03	.36		1	1		
ilbank	James		***		.08	****	****	****		****				. 08									1.23			. 18						
urdo	white									Inna.			***		8 8 8 8																	
														. 00	.10							. 20	1 92	. 30		61						
man	Cheyennedo	***	.21		. 30	.17				****		. 14	T	.01		***		****		***	***		1. 15	.00		. 08		1		1		
tumwa	do.	***			****	T.	****	****	****		****		T.	****		***						.04	. 91			. 18						
ankinton	James		T.	T.	.06									. 08	T.	T.	***					T.	1.73	. 25		. 12						
ollock	James		. 85	5		.72							T.									. 05	1.70	. 05	70	1.25	· · · ·					
apid City	Cheyenne	T.	T.		. 02	.06			T.	****			. 03	T.			****					1.00	52	.01	I.	. 02	.40				****	
CONTRACTOR HE AND CONTRACTOR	James	T				20			T	****		05	15	.03	****			T.		T.	T.	. 05	.08		T.	.08						
ochfordosebud	White	T.	T.	1.19	T.	. 01			T.				T.	. 25		n. 4.0	* * * *			8.8.8.8	* * * * *		. 30	. 22		. 15	.00					
slyn	Big Sioux		35	S		. 63												. 01					. 27				. 80					****
	CII.		1	1		****					****						T					1 60	****	****	****	67	****				****	****
by Falls	Rig Sioux		15	U TP	30							. 10	. 10		1.10	08						. 30	. 60	T.	. 10	. 55						
earfish	Missouri Big Sioux Cheyenne	T	. 10		1.28							.30							T.		,	. 60	. 70			. 50						
ephan	Cheyenne Missouri Cheyenne	08				T.		****				T.			T.			T.			225			* 49.00		-	. 20			T.		
ma	Cheyenne		. 28		.03	. 23						1.	.05			****				***		T.	1.93	. 21		39	.02	****		1		
lermilion	Missouri				.17	. 43			. 90			. 00	T.	T	****	.50							1. 19		. 05		. 40					
ater's Ranch	Chevenne		25		.33	. 89			. 20			. 31	. 07					. 15					1.28	. 17		. 66						
atertown	Cheyenne Big Sioux	T.	T.		T.	T.						***				10000							. 70									****
ntworth	do	** ***	.00		1.27											. 15				***			. 63									
nite Lake	Missouri White Missouri				T.		****						****	. 10	. 02					***	***		. 00									
nhernkton	Missouri			T	. 05	.02		.86				T.	. 03	T.	T.	. 10							2. 22	. 05		. 48				T.		
Minnesota.			1	1															- 1	- 1	-	- 1				1	-					
pestone	Big Sloux				. 90					****						***	. 60	. 10			- 1						1		1			1
Cotorado.	Danublian		00		. 22										07					. 12		. 36		1.88			. 11					
ron	Republican South Platte	*****	. 02		.22				****		****	****	.45		.01				.11													
riba	Republican	** ***	. 21	. 52	. 34	T.													.n	. 49		. 02	. 06	. 26	T.	.01						
Idhurst	South Platte											. 22	. 12					.04	90	T.	. 20	.08		. 04								****
reas	do				. 52	. 20			****			08		. 53	T.	***		. 32	. 26	***	. 22	1.	09	91								
ulder	Republican		19	. 20						****	****	. 00		. 16	01	****		. 02	.08 .36 .25		***	. 36	. 51		. 24			1			1	
asella	South Platte		. 05								.40			. 10		. 20		. 04	.08		. 10	. 10	.08									
stle Rock	do		. 04						.04				. 10						. 36	.03			. 27	. 49								
eesman	do											. 25	T.				T.	T.	. 25	T.		1.00	T.	T.	T.							
eyenne Wells	Smoky Hill			. 32					T.			***	T.	T.	T.					90	48	. 95	78	. 13	1.		40		1		1	
pe	Republican	***		1.02	80	09	****	****		****		.00		T 20	70	****	T	.10	.10	. 20	10	.30	T	T.			T.	1				****
D.Ver	South Platte		01	.09	T	.04			T			.06		.11			T.	T.	.08	T.	T.	. 13	. 43	. 08		. 08						
gewater	do			.01								. 12	. 04					. 03	. 22	. 03 .		1.02		. 60			****					
gewater tes P'k, Fish H'y rt Collins rt Morgan	do		. 12	. 40		. 15						. 25	. 15	. 10			T.	.05	T.	. 17	. 27	.04	.00	****	****	. 09	.04				1	
Collins	do	T.	. 01	.00		30					.04	.02		.04			****	. 07	T	10	200	100	1.40	. 15	****	T		10000			1	
t MOTERN	do	** ***	. 03		. 12	T.					L.	****		10000				5555	4.	. 12	· ou	. 10	. 10	****	1000	1	0000	10001		10000	10000	

Table 2.—Daily precipitation for September, 1910. District No. 6-Continued.

															1	ay i	of m	onth	١.														
Stations.	River basins.	1	2	3	4	5		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Colorado - Cont'd.		1																															T
Colorade - Cont'd. y's Ranch. eorgstown reeley. rover. artsel awthorne. olyoke (near). laho Springs.	. South Platte		.06	.31	. 13	. 17						, 20	. 40	. 22		, 25	. 05	. 22	.06		. 15	* X X X	. 08	. 23		. 05				***			-
eorgetown	do		T.	. 29	.11						.06	. 16	.00	3 . 37	T.	.01	T.	.09	. 12	.08	. 19		T.			T.							
roeley	do			. 36								.00	. 10	0 .19	.01			.00	****			.00	. 02	. 52		.03			1				
artuel	do	T.										. 29	.01	1	. 12	. 19			.04	.01	. 24			.01									
awthorne	do											. 02		. 30	.11		T.					T.	****	. 62	.01	. 07	.01						4
olyoke (near)	do		. 12	. 36	10	****		****		****	***	10		10	17		****	10	92	10	45	. 90	. 10	. 10		. 01	.00						1
nota	do																																
ossier	do																	****	***	****	****	****											
Porte	do	** ***	87	60				****					T	***	01					.08	.05		. 21		****	. 26		****			****		1
Roy (near)	do	**																												****			
ong's Peak (near)	do	** ***										.01	.01	.02	.01			.01	.02		. 02	. 02	. 02	.01		. 02							1
oraine	do	** ****	****	1.00							****	. 20		. 10		. 10	****		05			****	50							****			1
Cloud	do	T.	. 19	.07	. 43	- * * *	****		T.			. 20	. 25	T.	****	****	T.	T.	T.		T.	T.	. 35			T.							
dgwick	do			. 60	T.							. 01	. 20	0	****					. 53		. 63	. 20	. 33		. 10							
Il Mine	do	**	. 05		. 60							. 33	.04	.00	. 34	T.	T.	. 25	. 27	. 10	T.		T.			. 03			***				-
ver Lake	do. North Platte South Plattedo	01	00	79	04						***	33		* ***	****	****		48	****		****	****		****	****	****		****	T.	****			
erling	South Platte			. 10	. 05	. 01													. 20	. 02			. 02	. 49		. 03							
terdale	do		. 28	.34					T.			T.		. 12					. 19		T.	.06	. 10	.42		. 16							
estlake				****					4843			***							****							****	* * * *			- 2.2.5	****		-
IMA																																	
Nebraska.	371-1	-		500					1					-	PER							ops.	00	40		-							
nsworthbion	Niobrara	T.	. 26	T.	11	* 2 2 2			30	****	***	* * * *		T.	T.			****	****	****	****	.20	. 02	. 19		. 21	20		****				
liance	North Platte	** ****	. 04								****										****				****						****		
ma	North Platte Republican	01		. 02	. 53	.01		. 13								****					.06	.06	.02	2, 18			. 28						
oka	Niobrara	**	00	T.	T.		****		99			****	T		.13	.02	****					T.	. 70	1 29	01	01	- 10			T.	T		
hlandkinson []	Elkhorn		. 10	T	.07	. 11			. 10				I.	T	T								T.	. 02	T.	T.	. 35		1				1
burn	Niobrara	18	.09	.12	. 10		. 10		1. 10		***								****					2.00	1.54		. 68						-
atrice	Republican Missouri do North Platte Loup Niobrara Loup	07	T.	. 15	.05	. 23		****			****									***		00	. 12	2.84		***	.42				4.4.4.4		
aver City	Missouri	. T.	01	11	. 25	05	****	. 10	49		****		T			17	****	****		****		.00	. 12	1.63	.04		. 68						
air	do		. 58	.17					. 45				T.			.47							. 46	. 85	.02		.70						
oomfield	do		T.	T.	1.40	T.							T.	T.	T.	. 24							.48			T.	. 63			****		****	
dgeportokenbow	Loup	. 10	T.	.07	04	08			***					T.	T.		****	T.		. 19		. 30		. 40	55	. 10	59		****	****	****	****	
rgo	Niobrara		. 00		. 01	. 000					****																						
llaway	Loup																																
mbridgenton (near)	Republican North Platte	T.	****	T.	.24	. 02		***	700	****			08	19	T.	****	****	04	00		40	. 13	T.	96	****	* 5 * *	. 05				****		
lumbus III	Loup		10	. 20	. 18	T.	T.	****	.04		****	****	.00	.12		T.	****	.04	.00		. 40		T.	. 25	. 43		.28						
eighton	Missouri																						****	****			***						
ete	Blue		. 20	. 05	.04	, 10															10		. 10	3, 95		19	2, 25			****	****	2.2.2.2	
lbertson	Republican	T		67	1.18	49			T.				05		.07			2.0.12			. 10	.04	T.	. 57		. 10	****	****	****	****			
wid City	Blue		. 15	. 15	.07	.02		. 01				T.			.04	****	T.						. 16	1.65	T.		.38						
wson	Great Nemaha			****	****								****			****				***						****			****		****	****	
derslake	Republican Loup. Elkhorn Blue. do. Niobrara. Republican Platte. Loup. Blue. Loup. Niobrara.	** ****	. 34	, 30	.01			****	****		****	****	.01	****		****				****		. 30	.01	.01	.01	***	. 20	****	****	****	****		١.,
ring	Elkhorn		. 04		. 05									. 04	. 05									. 23			. 33						
irbury	Blue	07	. 18	. 05	. 22	T.	T.				T.		T.			T.				***	T.	94	. 25	1.62	. 12	. 40	74	* * * *	****			****	
rt Robinson'	Niobrara		****	10	01	. 10	****	****	01	****	****	****	1.	10	.00	****	.04	****	****	***	T.	. 22	****	. 65	. 05	.09	:11		****	****			
anklin	Republican	05	T.		. 13	. 20			.38				.07									.08		1.73			. 23					****	
mont	Platte		.74	. 18	****				1.12		****					. 12							. 36	.80			. 55			****		****	
llerton	Blue	. 18		.49 T	. 30	09	****	***	****	****	****		64		****	****		****			14			2.65	.02		72	****	****	*×**	****	****	1
noa	Loup	T.	. 60	. 10	.01	.05		***	T.			T.			.09	T.								. 63	.50		. 19						
rdon	Niobrara Republican		***																					****	****					****			
sperthenberg	Platte	. 05 T.		. 10	. 12	. 03	****			* * * *	****		T.		***			***		T.	.00	. 00	T	. 60	T	T. U.S		****	****	****	****		1
and Island	do		T.	. 00	. 10	.30	T.														.08	. 27	T.	1.80	. 20		. 08						1
ant	Republican	T.	***	. 46	. 13								.07				1				. 11	. 35	. 37			. 21				.08			1
eley	Loupdo	*	. 35	****	. 13	****		* * x *		****			. 03		.41					***		T.											
dseytington	Missouri		T.		.07	.70			1. 20					T.	T.	T.	T.																
rvardstings	Blue				. 66																. 05	. 02		2.08	.02	. 25							
yes Center	Republican				. 18	. 45					****			****						***	****	. 30	. 08	1.00	1. 10	1.	. 17		****	****	****	****	
v Springs	Niobrara	. T.	T.			****		****	T.	****	****	****	T.	T.	T.						. 02		T.	. 55		. 03							1
oron mingford	Blue	05	* UO	+ 8.5	. Mg:	. UG								.01						***	. 23		. 04	2.06			. 80						
mingiord	Niobrara North Platte		.78	79	00					****	* * * *		. 05	. 05	.08	.01			. 12	. 01													1
lstdeldredge	Republican			.03	.17	.13	****	****				****	. 20										. 13	. 20	. 20		.07						
operperial	Elkhorn		. 61	.09	.02				1.52					T.		. 40						. 45		. 70		. 41							
perial																					. 10	. 23	T.	. 15	. 02	. 37	08						
mball	Platte	.01	. 20	T.	.03	. 03		****	****	****	****	.14	T		.04			T.	.58	***	T.	. 47	.58	T.		. 15							
kwoodwanda	Niobrara	12		1.16	.04								T.	Т.								. 47 . 16 . 14 . 11	. 36			.09							1
wanda	North Platte			. 37	. 36	***			x				. 09						. 23		. 37	. 14	***	70									
dington	North Platte Plattedo	T	.11	.07	. 36	.03					****		T		. 08				***	***	. 30	. 11	30	. 72 3. 63	T	. 02	. 45	****			T.	****	
igepole	South Platte		. 10	. 64	. 00	. 50			. 04										. 13	. 55		. 26		. 36									
ID	Loup			. 17		. 08	. 05								. 15									. 75			. 25						1
Cook	Republican	Alexa el	- (NZ	A contract										4884	A.							T.	T.	.70			. 30						
dison	Elkhorn		.34			. 10		.53		****		T	***	****		T					***	. 23	.68	. 55			.75						
rquette	Platte			. 09	. 12	T.									T.								. 21	2.78	T.		. 40			****			
son City	Loup		. 12	. 11		. 06									12									. 88		. 35							
den	North Platte		14	. 03	. 52	. 04	***	****				00	90					62		***	. 04	.02		1. 18		.00		****	****		****		
braska City	North Platte Missouri		. 14	. 15		. 20			. 48			. 90	. 20											3, 75		. 45							
rfolk	Elkhorn			T.	.06				. 52					T.		. 52							.40	. 20			. 62						
rth Loup	Elkhorn Loup Platte	· ·	.10 T. .08	T.	. 03	T.									. 57					***		T.	T.	. 43		. 38			* * * *				
kdale	Elkhorn	. A.	.08	T.	.02	.02	****	.03					.08 T.		.03	.06		***		***				. 17		. 62							
aha	Missouri	1	10.4	. 09	.02	CEN	200			- 5 5 5			Ť.	- 0 5 5		. 27																	

Table 2.—Daily precipitation for September, 1910. District No. 6—Continued.

	Direct Control														Da	y of	mo	nth.														
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	9 2	0 2	1	22	23	24	25	26	27	28	29	30	31
Nebraska-Cont'd.		1																		T	T	1										
aligade	Republican									****																						
	Chant Manuaka	× 6	. 65			. 35									****						**	15		1.72			. 82					****
axton	South Platte. Blue. Loupdo. Republican Loupdo Missouri Loupdo	. T.	.01	. 27	.07	.01	****	****		***				.07		. 02				***	28	10	15	2 85		****	98					****
lymouth	Loup	T	30	. 04	T.	. 01		****	****	***	****	****	.06	.01	. 15	****						r.	.04	. 36		. 28	. 03	3				
avenna	do	T.		. 23	. 10	.02							.02		.02						14 .	02	. 14	1.29			. 33	3				
edcloud	Republican	. T.	. 16	.04	. 07	.04			.01				.05			T.					20 .	05	. 20	2.00			. 36					
aint Libory	Loup	. T.	T.	. 21	.39	.01		***							.04	****						.Ua	.07	78		98	. 18		* * * X			
aint Paul	do			. 13	. 08	.00			****	****		****	T	T	. 20			****	****			***	95	20		. 20	35		***			
anteeargent	Missouri Loup	T		T.					****		****	****	. 10	. 20									T.	T.	. 55	T.	. 55	\$				
chuyler	Platte		22	.24	.04				T.			T.			T.								. 11	. 62								
cottsbluff	North Platte	01	.07	.01	T.				. 02			. 01	T.	.07				T.	.04	05 .	31		. 02	. 53		.01						
eward	Blue		. 20		. 30											****					**	1	. 60	1.40	***	. 85					* × × ×	
heridan	Loup. South Platte Niobrara. Elkhorn.			40		. 15	****		. 30	****	***	****			****			****	05	99	**	19	99	50	. 70	. 40						
idneypringview	Nichrara		T. 00	13		****		* * * *	****			****	T.	T.	****	.06		****	.00			r	. 00	T.		. 05						
tanton	Elkhorn								.43						. 75								. 90	. 50		. 86						
tratton	do						****																			****						
ecumseh	Great Nemaha	. 14	. 02		. 19		. 32		. 28	****						· · · ·		****	****	***	**		78	4. 80	1.00							1
ekamah	Missouri		.41	7	****				. 32			****		****	. 02	. 00		****	****		88		125	45	. 00		63					
obiasurlington	Little Nemaha		04	18	T	17	****		20		****		****	****	****				T.	r. 1			. 05	3. 54		T.	. 34					
alentine	Niobrara	T.		. 25								T.	T.	.04	. 03	T.						04	. 11	. 13		. 07						
ahoo	Platte			. 20																		**	. 50	2.70		. 97	***					
akefield	Missouri Blue Little Nemaha Niobrara Platte Elkhorn		. 05		. 27				. 88			****	****	****	. 03			****				1	. 59	. 11			. 46					****
althill	Missouri		****					****		****	****	****	****	***				****	****	** **			***	1.40		18	****				deves	
atertown	Panublican		.47	0.5	. 34			****	****			****	****	****		****				80	65	**		. 20		. 25						
Vauneta	Missouri.	T	.09	.02	.03	.08			****		****												. 23	2. 17			. 54					
Vellfleet (near)	Republican Elkhorndo																															
estpoint	Elkhorn		. 80	T.					.70			T.				. 50						1	. 54	. 45	. 12		. 42					
isner	do		. 11			T.		. 50				T.		T.	. 22			****					. 82 T	. 40	****		. 50					****
ork	Grand		. 02	T.	. 10	. 50				****		***		***	I.		****	****			* *	**		. 44	****	****	. 20					
fton	Cond				T	02										1.20	3. 76			06			. 191	1.91			. 29					
llerton	Chariton	. 28		.07	.02	.07	****	T.	****				T.	T.		. 88	. 29			Γ			.07	.98	. 65		. 20)				
lton	Floyd				. 05	.03						. 03	. 02	.01		.40							. 45	.08		T.	1.09					
tlantic	Nishnabotna	. T.	. 05	. 13	T.				.01			T.			T.	.72	T.					**	* 1	1.78	.04		. 22					****
udubon	do Missouri. Chafiton. do. Nodaway. do. Chariton. Missouri. do. Nodaway. Vissouri. Nodaway. Vissouri. Nishnabotna.		. 65	.09	.01				. 03						. 02	. 63		* * * ×		200		**	, 90	. 85			. 84					
edford	Missouri	15	. 14	.06	T.	. 15						****	****	m.	****	. 20	0.0	****			**	**	. 132	75	****	****	15					
enterville	Chariton	. 40	****	T. 22	.05	. au	* * * *		****			55		1.	82	15	.00	****	T		**	**	**	. 90	. 45	****	. 15					
hariton	Nodaway	10			22		.03	****	.17	****	****						. 13						1	1. 10	1.75		. 61					
orning	do	03	. 20	. 12	T.	T.			T.		****					.76						**	. 20 2	2.40								
orydon	Chariton	24	T.	T.	.02	.04			T.				T.	T.	***	. 91	. 06						. 14 1	. 12			. 23					***
ouncil Bluffs	Missouri			.00		.02		. 80	****										, 55 .	** **			. 181	. 34	1 70		. 78					
reston	do	00		.01	.05	T.		****	. 02	* * * *	****	****	T.	***		2 24	1.42	1.95		18		** 1	021	18	1. 10	0.0	. 20					
umberland	Nodaway	10	. 03	T. 11	.01	****		****	T		****		****	***	****	74			****	10	**	1	21	. 40	.05	, 00	. 74					
enison	Niehnahotna		37	07	.04	****	****	****	.18	****		****	****			. 76				r			. 32	.88			. 23				T.	
reenfield	Nishnabotna Nodaway Nishnabotno	. , 08	T.	. 09	T.											.71	2.13						.411	. 45			. 14				. 10	
[arlan	Nishnahotno		12	. 11	- 01	.01			.01				T.		T.	. 76				r			. 61 1	.06	.02		. 47					
lopeville	Grand Big Sioux Grand		. 03	. 02	. 22	T.		****					****			. 60	1.37			** **			. 172	. 90		1. 20	.31					****
nwood	Big Sioux			. 10	. 10		T.	****			****	. 03	.03	. 07	. 02	49	70	****		00		** }										
amoni	Little Stour		****		T 12	1.	. 10	****		****		****		02		90	1. 40				11			. 22		. 80				. 16		
e Mars	Little Sioux		T	T.	.04	.06			.04			T.	T.		T.	.71			T.				. 50	.02	T.		. 70					
enox	Missouri			. 15	T.	. 01			T.							5.8	15			4												
eon	Missouri	10		T.											****	1. 60	. 50						T.	. 70	****		. 30				****	****
attle Sioux	Little Sioux		. 22			****			. 28		****			***	.03	1.00							76	61	.09		1 10				****	****
ogan	Missouri		.20	. 14	. 02	* * * *	****		. 21				1.	***	1.	1.00		****		** **	**	** '		. 01	. 02	****	1. 10					
Tount Are	Crand	90	98	06	0.9	0.3			0.5					- 03		.45	2.70						15 2	. 25			. 55					
debolt	Missouri		. 20	.00	.32	. 00			. 10						T.	1.53	. 53					a silks	. 31	* 90	. 00	* 1947	****					
nawa	do		.30		.02	. 12			. 25							- 03	!					A . 18	. 00	. 30	. 00		. 50					
acific Innetion	do		1000	15		03									T.	T.				Ľ		68	60 1	. 75	****	4 700	. 54			T.		***
lock Rapids	Big Sioux				****			****					****			****			****			50	. 15	07		rgs.	9 50	V				
heldon	Floyd		. 10		. 10	. 20	. 03	****		****		. 02	19	.02	10	1.00		09		** **		**	11	. 15		A	1,30					
ibley	Floyd. Rig Sioux. Floyd. Missouri. do. Little Sioux.		****		11	.01	****	****		****	****	T	.02	.01	. 10	.42		.00	T.				40	. 32		T.	. 44			T.		
loux City	Missouri.		.03	T.	.99	T.		. 14	.11			T.	T.	T.	T.	. 17	****					1	. 80	. 03		. 50	. 16			T.		
hurman	do	03	T.	. 02	. 03	. 15			. 15											C		**	. 03 2	. 06			. 44			T.	****	****
ashta	Little Sloux			****	. 10		****		T.			T.	T.	****		2.00	. 10			00	** **	**	82	. 32		. 75		***		I.	****	****
																											****	****			****	****
Kansas.	Samelan III	1 04	1 10	10	T	80			T								1					10	06			.36						
bilene	Kanaac	1.31	07	. 18	02	. 02	****		4.		****		T										T.	. 22		. 02	. 25					
lton	Smoky Hill Kansas Solomon Missourido	. T.	T.	.17	. 05	. 12															05 .	90	. 28	. 85			. 49					
tchison	Missouri	38	. 45	. 20	.06	. 84			1.00					****				****					1	. 16			3. 10					***
aker	do	. 1.70	. 22	. 13	. 21	. 03	.57		1.05					****		****				** **	** **		T.	. 81	T.	***-	2. 18					****
eloit	Solomon Republican		***											****		****	***	****			**	50	***	99		****	00				****	****
lakeman	Republican		***	. 12	. 14	. 02						****	****		****	****		****	****	** **		45	***	. 22	* * * * *	***	. 00					
lue Rapids	Blue		****	****	****			***1	****		****		****			****																
hapman	Bluedo Smoky HillRepublicandododododododo	2 12	28	. 15	T	.32		****	.05														. 10			. 12						
lay Center	Republican	63	. 70	.40		1.00			T.														. 25	***		****	. 25					
olby	do			. 02	.04	T.				***			T.	T.	T.					r. 7	. :	29		. 24			. 37		***			
oncordia	do		. 22	. 13	.09	. 54			****				****					****	****]		10	. U2	. 19	****	. 25	. 15				***	****
ensmore	dodoSolomonRepublicanSmoky Hilldo.			.09		T.			****	T.	OP.	****	. 16	***	· ir	****			****			19	02	69	****		01				****	
resden	Republican	1.45	00	. 03	. 10	.01			04	T.	1.		****		1.	****		****		7		r	51	. 02		.30	. 28				1	
llsworthnterprise	Smoky Hill	1.04	.20	10	****	97		****	.09	A.			****	****	****	****		* * * *		**												
skridge	Kansas	1.65	95	10	.08	.30			.09													1	T.			. 25	1. 15					
arnsworth	Smoky Hill	T.	. 00	T.	T.	. 08			T.				. 02								02 .	04	. 07 1	1.20			. 14					
4 Cl 44 III	Marmaton	08	. 68	1.55	1.07	2.07	. 10	1.35	. 19	. 01	****									7	. 1	ľ. .		. 07	. 02		. 18	.71				****
L. SCOTT III.	Plue	23	. 25	. 50	. 10	. 15			T.		***												. 62	.31			. 57		****		****	****
t. Scott	Dido			0.0	98	2 16		. 05	. 19	. 03				T.								2.2	1.	. 00		. 06	. 01					****
rankfortarnett	Marias de Cygnes.	. 1.58	2.17	. 30	- 40							5785		0.0	p.m						9.8	-	8.0		PER	0.8						
rankfortoodland	Marias de Cygnes Smoky Hill	1.58	2. 17	. 14	T.	.08						T.		. 03	. 07						15	10	. 55		T.	. 05					****	****
rankfortarnettoodlandoveanover.	do Kansas Smoky Hill. Marmaton Blue. Marias de Cygnes. Smoky Hill. Blue. do. Republican. Smoky Hill.	1.58	2. 17	. 14	T.	.08			99			Т.	.08	. 03	. 07						15	10	. 55 . 23 T	. 67	T.	. 05	2, 70					****

Table 2.—Daily precipitation for September, 1910. District No. 6—Continued.

Stations.	River basins.	1_				-				T. COLUMN					D	ay o	f me	onth														
Ctations.	Ativer Danina.	1	2	3		8	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Kansas-Cont'd.																				-											1	
II City	. Solomon	1.11	39	71	04	- 60	- * * *		79				T	T	****	****		****	****	***		****	T	1 29	****	****	9 39		****			
orton	Solomon		. 00		.00	. 00									****	****	****	****	****			. 14	. 26	1.04	****	. 13	2.02	****	****			
wel	Republican		. 14	. 03		.35									****	****	****		****	T.	.02	T.	. 03	. 16			. 51					
wrence	. Kansas	. 1.80	1.50	. 02	. 17	1. 77			. 29	T.										T.			. 02	. 18		.01	1.08					
banon	. 2010mon					. 20	Nones						Seve.						0 6 8 2 1	- 1000				2.0		2222	+ 642		Bunne			
deborg	. Smoky Hill				. × . ×	× × × ×															***		****									
nkato	. Republican	00	.03	. 39	,08	. 03					***				***	***				****	.08 T.		. 05	1.00	****		. 46					
neapolis	Republican	- 17	. 84	T.	. 14	. 14		. 00	1.	5.55	****	****	****	98	****	****		1841	****		T	T.	. 10	.01	.04	19	1 05			***		
ran	Saline	. 10	1.36	1. 90	20	.04		. 00	. 12	****				1.	****	****					4.		4.	. 28	. 24	1 00	I. UG	****	****			
toma	Saline	T	T.	****	07			1	****	****			. 02	T.	****	****		****			T.	. 15	****	2.36	****	1.00	. 26				1	***
rlin					.06								T.	. 03								. 18		. 54			. 55					
10	do Blue Kansas Marias de Cygnes do Solomon Marias de Cygnes Smoky Hill	08	.84	. 25		. 32								T03							T.		. 04	. 62			1.23					
thege City	Kansas	. 1. 23	. 55	. 90	.03	1.37		.07	. 93	Fee.	****									***	T.		. 05	. 24	****	1.44	. 05					
ge City	Marias de Cygnes	66	2, 90	. 80	. 47	. 47	. 15		****	. 27				T.	****	****								. 25		T.	1.15	. 01		***		
awa	do	83	1.34	. 90	.08	1.05		.02	. 19	T.			****	T.	****		****			***	mi I	***	.01	.09		. 24	. 90					
llipsburg	Notice de Cuerce	40	9 78	. 12	. 10	9 95			07	****	***X		.00	.04	****	****	****				00	. 10	.04	3, 32	49	09	1 01	***	***			****
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Climatological Data for September, 1910. DISTRICT No. 7, LOWER MISSISSIPPI VALLEY.

ISAAC M. CLINE, District Editor.

GENERAL SUMMARY.

High temperatures prevailed generally during the first seven days of the month, but from the 8th to the 14th a cool wave overspread the district, causing a decided fall in temperature southward to the Gulf coast. From the 15th to 22d warm weather was general, maximum temperatures of 100°, or higher, being recorded in some localities. From the 23d to 25th another cool wave prevailed, during which time day temperatures were below 70° in the northern portion of the district. From the 26th to the close of the month warm weather was general.

Precipitation was in the form of rain, except that five of the more elevated stations of the Colorado area reported light falls of snow. Periods of precipitation were well defined, except in the New Mexico and Texas areas, where only scattered showers occurred. In Colorado, there were two rainy periods, from the 1st to 3d and from the 10th to 23d. Over the remainder of the district showers occurred generally in two periods, from the 1st to 14th and from the 19th to 28th. The precipitation was unevenly distributed and below the normal over the greater portion of the district. In many localities severe drought prevailed

TEMPERATURE.

Mean temperatures for the month were above the normal throughout the district, the departures ranging from +0.9° to +6.1°. The maximum temperature reached or exceeded 95° at some stations in all States or areas, and 100°, or higher, was recorded in many localities. The highest temperatures were experienced generally in Oklahoma and in the Texas area, where they were above 100° at nearly all stations. The highest temperature recorded was 107°, at Hobart, Okla. Minimum temperatures for the month were generally below 40° in the Colorado and Kansas areas and below 50° elsewhere, except in the southeastern portion of the district, where they ranged between 50° and 60°. The lowest temperature recorded was 25°, at Lake Moraine and Leadville, Colo. Light frost was general over the New Mexico area on the 27th. Freezing temperatures occurred at many stations in both the Colorado and New Mexico areas and at one station in Oklahoma. A general frost occurred over the Kansas area on the 27th and again in the Verdigris Valley on the 28th.

Monthly mean temperatures and departures from the normal for the various States and parts of States are reported as follows: Colorado area, 62.4°, +3.3°; New Mexico area, 66.2°, +2.3°; Texas area, 76.0°, +5.2°; Kansas area, 71.9°, +2.2°; Oklahoma, 77.7°, +4.4°; Missouri area, 72.4°, +2.9°; Tennessee area, 75.2°, +3.2°; Arkansas, 76.4°, +3.1°; Mississippi area, 78.1°, +3.2°; Louisiana, 79.2°, +1.8°.

PRECIPITATION BY DRAINAGE AREAS.

Arkansas River and tributaries.—Less than the normal amount of precipitation occurred throughout this drainage area, except in Arkansas and over the headwaters of the Verdigris and the Neosho valleys, in Kansas and Missouri. The amounts of precipitation and the departures from the normal for the several portions of this basin differ materially. Over the headwaters of the Arkansas River, in Colorado, the average from 33 stations was 0.57 inch, being about 0.7 inch below the normal. The precipitation was heavier over those portions of the Arkansas Valley proper that lie in Kansas and Oklahoma, where the amounts from 38 stations averaged 1.41 inch, which is about half the normal amount. The average for the Cimarron Valley was 0.28 inch and the deficiency amounted to more than 2 inches. The precipitation from 60 stations in the Canadian

Valley averaged about half an inch. Over the part of this valley that lies in New Mexico the deficiency averaged about 1.3 inch, and in Texas and Oklahoma it averaged about 2 inches. The precipitation was uniformly distributed over the Verdigris Valley, the average from 10 stations being 3.08 inches, about 1 inch below the normal. Excessive precipitation occurred in portions of the Neosho Valley, 6 stations reporting more than 6 inches and one more than 10 inches. The average from 18 stations was 5.11 inches, being about 0.7 inch above the normal. Over that portion of the Arkansas Valley below the Oklahoma-Arkansas line, the precipitation was unevenly distributed, the average from 15 stations being 2.55 inches, about 0.5 inch below the normal.

Red River and tributaries.—There was less than the normal amount of precipitation at every station in the Red River Basin. The average from 59 stations was 0.85 inch, being about 1.9 inch below the normal. Only 7 stations reported more than 2 inches

Mississippi south of St. Louis and small tributaries.—More than the normal precipitation occurred over the upper portion and less than the normal over the central and southern portions of this drainage basin. In the immediate Mississippi Valley the amounts from 44 stations averaged 2.61 inches, being about 0.5 inch below the normal. Heavy precipitation occurred over the Meramec Valley, where the excess averaged about 2 inches. Over the White River Valley the average from 21 stations was 3.83 inches, being about 0.2 inch above the normal. One station reported more than 9 inches. The precipitation was light over the Yazoo Valley, the average from 28 stations being 0.66 inch, about 2.4 inches below the normal. Over the Valley of the Big Black the precipitation averaged 1.16 inch, being about 2 inches below the normal. Less than the normal precipitation occurred at all stations in the Ouachita Valley, the average from 19 stations being 1.55 inch, about half the normal amount.

Louisiana coastal plain.—Heavy precipitation occurred at several stations in the central and eastern portions of this area, the greatest amount being 10.37 inches. More than the normal amounts occurred over the eastern and less than the normal over the western parishes. The amounts from 29 stations averaged 4.41 inches, being about 0.3 inch below the normal.

Monthly precipitation and departures from the normal for the various States and parts of States are reported as follows: Colorado area, 0.57, -0.74; New Mexico area, 0.46, -1.40; Texas area, 0.34, -2.19; Kansas area, 2.57, -0.66; Oklahoma, 0.98, -2.00; Missouri area, 3.84, +0.47; Tennessee area, 1.90, -0.96; Arkansas area, 2.41, -0.87; Mississippi area, 1.15, -1.83; Louisiana area, 3.29, -0.77.

RIVERS

In Oklahoma nearly all streams were at low stages and many of the smaller tributaries were dry during the latter part of the month.

Low water continued in the Red River and changes were very

slight.

No material changes occurred in the Arkansas River during the month and low stages prevailed generally. There was a rapid rise in the Neosho early in the month, which lasted for a few days. Navigation on the lower Arkansas was suspended, except for a few days in the second decade.

Low water continued in the White River.

Only slight changes occurred in the Ouachita and low water prevailed throughout the month.

Below St. Louis the Mississippi rose slowly during the second and third decades. The crest of this rise reached Mem-

phis, with 15.1 feet, on the 14th; Helena, 17.4, on the 15th; Arkansas City, 20.2, on the 17th; Vicksburg, 16.2, on the 19th; Natchez, 16.8, on the 20th; Baton Rouge, 9.0, on the 21st; and New Orleans, 5.7, on the 25th.

NOTES.

Rociada, N. Mex.—Crops are fair and the weather has been ideal for harvesting. Rains have been light in the mountains and streams are running low.

Las Vegas, N. Mex.—"The Optic," September 10, 1910.)

Construction on the Eagle Nest Dam, the big irrigation project of the Cimarron Valley in Colfax County, was begun Saturday. The dam is to be located near Elizabethtown. It will confine a large amount of water and will irrigate many acres of fertile

The French Land and Irrigation Company is working a large cree of men near French. * * * Due to various reasons, force of men near French. principally lack of knowledge of the soil, the crops on the irrigated land opened this year near French are not a pronounced success; the farmers, however, are profiting by their experience.

Beaver, Okla.—Weather unseasonably warm. Rain is needed. Chandler, Okla .- Most of the streams in this vicinity are dry. Chattanooga, Okla.-Streams are all dry and water is very scarce.

Healdton, Okla.—Wells are going dry and water is scarce.

Kansas (T. B. Jennings, Section Director).—A severe hailstorm traversed the southern and eastern counties, on the 3d.

On the night of the 25-26th a hailstorm occurred in the southern part of Reno County, which lasted for 20 minutes and materially damaged the apple crop. The hailstones were three-fourths inch in diameter. Generally, weather conditions were very favorable for farming operations, building, and transportation interests.

Missouri (George Reeder, Section Director).-Weather conditions were generally favorable for outdoor work. Reports indicate that the rise in the Mississippi, along with the relatively low stage of the Ohio, caused some cutting into the river bank at Birdspoint, Mo.

Mississippi (J. H. Scott, Section Director).—Two drainage projects in Coahoma County, Miss., that will reclaim or benefit 27,000 acres of very fertile land, are now nearing completion.

Fishing Bayou Drainage District was organized in 1908 under the Alcorn Drainage Act, bonds to the amount of \$30,000 being sold. It comprises 7,000 acres of land, drained by about 9 miles of ditch, including two laterals. The main canal has been opened into the Sunflower River and only about 10 per cent of the work remains to be done.

Hopson Bayou District comprises about 20,000 acres of land adjoining Clarksdale, Miss., on the south and east. It was organized in 1908 under the Alcorn Drainage Act, \$50,000 in bonds being sold. The plan calls for 17 miles of ditch opening into the Sunflower River. About four-fifths of the work is complete.

Table 1.—Climatological data for September, 1910. District No. 7, Lower Mississippi Valley.

			yrs.	Tem	perature	, in de	grees	Fahr	enhe	it.	Prec	ipitation	n, in in	ches.	days,		Sky		lon.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of clear days.	Number of part-	Number of cloudy days	Prevailing wind	Observers.
Colorado.	Baca	3, 935	18				****	*****												M. M. Myers.
Buena Vista	Chaffee	6,700	3	52.8 61.0		74 86	10	26 33 37 34	26 26 27 27	39	0.31		0.25	0.0 T.	6	19	11	0	sw.	C. A. Short. H. B. Rice.
Jamon City	Fremont	5, 329	30	65.8	+ 0.9 + 2.7	92 88	11 7	37 34	27	39 48 45	0.44	- 0.35 - 0.18	0.32	0.0	5	23 16	11	3	n.	G. C. Sherwood. Colorado College.
ripple Creek	Teller	9,396	9	******	******	*****	****	*****			1.14	- 0.47	0.53	0.0	5 2	21	9	0	sw.	F. G. Willis. Geo. A. Mayes.
ads	Kiowa	4, 209	3												5	18	12	0		W. H. Lauck. Elizabeth L. Gray.
lorence	Custer	5, 185	1	******	******			*****			1. 12	*******	0.49	0.0		10			Be.	W. G. Fish.
remont	El Paso	8,850 9,510		54.2		76	10	32	26	30	1.01	*******	0.44	0.0	9	26	20	1	W.	U. S. Forest Service. Lloyd N. Felton.
len Evrie			18	62.5	+ 3.7 + 3.2	94	24	28 32	27 27	54 52	0.02	- 1.19 - 0.02	0.01	0.0	5	18 21	12 5	0	n.	. Calixto Bertolotti.
lamps Iermit Lake	Custer	10,000		******									0.05							W. Hamp. John E. Graham. S. W. DeBusk.
loehne (near)		3 380	18	69. 1 70. 5	+ 6.9	99 69	7	37 36	24 27 27 26	55 50 35	0.05 0.12	- 1.28 - 1.33	0.07	0.0	5	27	3	0	80.	Holly Sugar Co. Clyde C. Mc Reynolds.
ake Moraine	El Paso	10, 265	20	50.2 72.8	+ 2.9 + 3.9	101	10	36 25 46 38	261	35 45	1.23	- 0.39 - 1.21	0.27	0.5	6	8 24	18	2	sw.	J. T. Lawless.
as Animas	Bent	3,899	42	70.3	+ 4.6	98	71	38	27	52	0.45 0.22	- 0.57	0.32	0.0	2 2	18 20	3 9	9	ne. w.	F. M. Tague. Norman R. Lively.
a Veta Passeadville	Lake	10, 248	14	50.8	+ 2.4	73	8	25	5	37	1.23	+ 0.38	0.40	0.0	8	15 28	8	7 1	n.	U. S. Weather Bureau.
imon (near)	Las Animas		3	58.5		90	10†	30	27	52	0.64		0.49	0.0	3 2				80.	John Lesher. Thos. Sawyers.
farshall Pass	Saguache	10, 846	7	******				*****		****	0.15		0.13	T. 0.0	1	18 26	11 3	1	w. nw.	W. D.Lillard. James W. Ingmire.
Pueblo	Pueblo	4,734	22 21	67.0	+ 2.6 + 4.7	95 96	10	38 37	27	51 52	0.13	- 0.25 - 0.82	0.10	0.0	0	18 19	11	1	se.	James W. Ingmire. U. S. Weather Bureau. P. K. Blinn.
tocky Ford (near)	Chaffee	9,500		68.0	******						1.49	******	0.30	0.0	10	17	10	3	sw,	Daniel Clark.
alida heridan Lake	do	4,065	12	58.4 72.2h		961	16	27 39h	271	51 43b	0.47	- 0.65	0.30	0.0	2	27	3	0	w.	M. D. L. Buell. Howard Gamble.
tonewall rinidad	Las Animas	8,000	14	******							0.74	- 1.38	0.43	0.0	2	13 28	17	0 2		J. W. Shouse. Mrs. Mattie Butler.
ictor (near)	Teller	10, 100	6	58.0		79	7	35	5	42	T. T.	******	T. T.	0.0	0	28	9	0	e.	Fred Jones.
ilasestcliffe	Custer	. 7,864	19	58.7	+ 4.7	83	16	26	26	50	0. 19	- 1.69 - 1.20	0.16	0.0	2	14	9	7 1 2	ne. sw.	Carrie Konkel. Zack Jordan.
VinfieldVortman	Chaffee	9.765	9	*****	*******						1.80		0.52	T. 7.0	12	6 2	23 26	2	w. nw.	John G. Payne. Geo. C. Wortman.
New Mexico.			1			60	11	42	261		0.85		0.50	0.0	2	24	6	0	8.	El Paso & Southwest. R. R.
bbott	Union	4,700	19	72.4	+ 2.6	96	10†	49	28		0.50	- 1.30	0.50	0.0	1	28	2	7	w.	Andrew Knell.
rch (near)	Roosevelt	4, 634 8, 849	1	65.4		100*	31	35*	28	44*	0.90 0.51		0.90	0.0	7	23	0 26	0	nw.	Wm. A. Elliott. Miss Juanita Lucero.
urora lell Ranch llack Lake	San Miguel	4,500 8,348	11	71.5		97	10	45	25†	46	0.17 1.72	- 1.39	0.11	0.0	7	19 15	9	2 4 0	sw.	C. M. O'Donel. Ralph T. Martines.
abeza	San Miguel	8,348 5,406 4,493	1					*****			0.00		0.00	0.0	0	18	12 19		80. W.	El Paso & Southwest. R. I.
ampanahacon	Mora	9,000	1	******	*******	*****		******			0.00		0.00	0.0	0	11	18	3 1 1 2	w.	Alfredo Lucero.
imarron (near)		5, 178	5	62.3 68.2		87 94	10	36 44	27 26	45 42	0.27	*******	0.13	0.0	4 2	19 26	10	2	se. nw.	Wm. French. Dr. W. W. Chilton.
lovis	Curry	4, 129	i	72.8		95	101	48	27	37	1.10		0.60	0.0	3	25	4	1	8.	A. Mendenhall. El Paso & Southwestern R
awson	Colfax	6, 396	7	******				*****			0.25		0.25	0.0	1	19 23	9 7	0	8.	Do. Geo. T. Lambert.
lizabethtown		8, 465	4	65. 6 53. 2		89 79	91	41 24	27 27 12†	41 50	0.78		0.28	0.0	4	19	11	0	w.	Miss Mabel Carrington.
olsomort Union	Union	6, 399	10 50	64.8 59.4	+ 4.5	79 87 83	10†	24 42 34	12† 26†	36 45	0.56	- 1.70 - 1.40	0.38	0.0	3	23 25	6	1	SW.	David Rope. M. C. Needham.
layden	Union	4,444	1			*****					0.18		0.18	0.0	1	12	17	i	sw.	Geo. L. Cook. A. J. Meloche, jr.
appus	Quay	. 4,000		******							0.43	*******	0. 19	0.0	4				*****	Anthony Kappus. Raton Water Co.
ake Alice	do	1,100	4	73.00		98*	101	43 •	27	450	0.15	*******	0.15	0.0	1	28	2	0	5W.	John B Reneau
os Alamosykins (near)	San Miguel		5					*****			1.61		1.25 0.68	0.0	5	16	14		8W.	Wm. Frank, sr. J. G. Buchanan.
axwell (near)	Colfax	5, 894	3 2	******							0.26		0.26	0.0	1 2					Wm. Frank, sr. J. G. Buchanan. D. N. Jackson. Dr. B. M. Porter. Farmers' Devel. Co.
elrose iami Ranch	Coltax	6,000	2	64.6	*******	87	11	35	27	47	0.00	******	0.00	0.0	0	22	6	2	sw.	Farmers' Devel. Co.
ontoyaount Dora (near)	Quay Union	4, 335 5, 600	1	******							0.25	*******	0.21	0.0	0	0 21	28	1	w. w.	Edward F. Grygla.
ara Visaptimo (near)	Quay	6, 400	4	71.5° 65.2	*******	96°	10† 11	48°	27 28	39 •	0.50		0.34	0.0	3 2	26 27	3	3	8. 8W.	Willard Belknap. R. K. Odell.
asamonte	Union		12									1 99				22	7			R. K. Odell. J. J. Heringa. Prof. R. C. Crum.
ociada	San Miguel	8, 200	6	64.9	+ 3.5	84	101	38 29	26 28	50	0.49 0.82	- 1.22	0.30	0.0	3	3	26	1	8. W.	Jose A. Baca.
osebud	Union	5, 884	ï	******				* * * * * *			0.50		0.30	0.0	2	9	21	0	aw.	M. T. Nix. El Paso & Southwest R. R
olano (1)	Quav	4, 200	3	73.4	*******	97 91	11	46	27 27	39 42	0.13		0. 12 0. 84	0.0	2 3	24	5	1 2	sw.	Jesse T. White. F. M. Hughes.
ringer	Colfax	0,807	14	67.0 65.0	+ 2.3	92	101	33	261	53	0.10	- 1.18	0.10	0.0	1	23 26 14	4	0	W.	Atchison, Topeka & S. F. I
aylorrementinaucumcari (1)	do	5,000	2	******	*******	*****	****	*****	****		0.00		0.60	0.0	0 2	23	13	3	e.	Atchison, Topeka & S. F. I El Paso & Southwest. R. I Miss Alice Blake.
alley	Quar	5,000	5 5	73.3	*******	96	3†	47	27	39	0.49 T.		0.29 T.	0.0	2 2 0	23 26 24	6	0	5W.	John F. Seaman. Mrs. M. Letitia Payne.
alley ermejo Park agon Mound (near)	Colfax	7,600	5	58.7	*******	83	7	33 36	28†	44	0.78	*******	0.43	0.0	3	7 19	9	14 2		H. W. Adams. Guy L. Barnes.
Teras					******	89	10		26	46	0.11		0 08	0.0					sw.	
marillorcher City	Archer		18	73.8	+ 6.1	101	11	46	27	44	0.05	- 2.31	0.05	0.0	3	16 24	14	0 2 6	sc.	U. S. Weather Bureau. Chas. H. Thuman.
onham	Lamar	590	18	81 84		102*	3	500	19	38•	0.10	- 2.38	0.10	0.0	1	22 15•	2			J. B. Wheeler. B. S. Lovelace.
hildren	Hemphill	2,339	3									*******		*****						Canadian Academy.
	Childress	1,869	17 2			******	****		****		0.60	- 1.47	0.60 0.92	0.0	3	19	8	3	8.	W. E. Davis. A. B. Connor. J. B. McClelland.
arkaville	Donley	2.719	5 18	76.4		102	11	45	27	45	0. 10		0.10	0.0	1	25	5	0	80.	J. W. O'Neill.
laude	Armstrong	3, 397	5				- 1				0,00		0,00	0.0	0					Ft. Worth & Denver Cy. Ry

Table 1.—Climatological data for September, 1910. District No. 7—Continued.

			N. N.	Tem	perature	, in de	едтом	Fah	renb	eit.	Pre	cipitatio	n, in i	oches.	days,	6	Sky		on.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from	Highest.	Date.	Lowest.	Date.	Greatest daily	Total.	Departure from	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of	Number of part-	Number of cloudy days.	Prevailing wind direction.	Observers.
Tesas—Cont'd.	Grayson		. 2								1.61			0.0			7	3	s.	J. B. Gibson.
inleylenrietta	BowieClay	915	18	81.8	+ 4.5	103	21	57		40	0, 12	- 2.11	0.12	0.0	4	21 18		6 2	8.	Mrs. M. C. Myers. C. K. Brown.
ewis Ferry	Deaf Smith	3,750	. 1	72.2			3†	40	27	51	T. 0, 10	*****		0.0	0	19 22	11 5	3	sw.	A. C. Elliott. P. G. Ruff.
emphis	Bowie	2,067	5	76.6	*******	96 104	29	52 40			0.15	******		0.0	1 3	22 25 22	6	1 2		Ft. Worth & Denver City F J. E. Kinney.
obeetie	Wheeler		. 16		*******	*****		*****		-	0.00		0.00	0.0	0	20	8	2	S. S.	R. A. Choate.
nsareth	Castro Ochiltree		2		*******	100	3†				T. 0.25		T. 0.25	0.0	0	27	3	0	sw.	Rev. P. A. Kaelin. S. J. Allen.
ampa	Gray	. 3, 226	1 21	******	******	101				90			*****	*****		-				B. E. Finley.
emons	Lamar		. 3	73.0	+ 4.7	102	11	39		52	0.33			0.0	3 2	19	9	5 2	8.	Robert A. Miller. C. S. Solomon.
uanah ingo Crossing	Hardeman	1,563	5	80, 9	*******	102	31	55	10	36	0.85		0.65	0.0	1	21 24	0	7 6	8.	Wm. H. Crawford. H. J. Palmer.
omero	Hartley			72.1	*******	98	11	41	27	41	0.57		0.53	0.0	3	18	11	1	sw.	R. S. Chamberlain.
nerman	Grayson			81.2	+ 3.7	96	5	63	271	26	1.01	- 2.63	1.01	0.0	- 1	21	8	1	8.	R. A. Gibbs. O. M. Pate.
exline	Dallam	4,694	5	******	*******	100		41	271		T.	0.00	T.	0.0	0	20	9	1	8.	Ft.Worth& Denver City H
uliainfield	Swisher	3,501	12	75.6	*******	103	3	42	27	50	T. 0.56	- 2.32	T. 0.34	0.0	0 2	21	26	0	sw.	Lou Mulhall. J. C. Bostick.
Kansas.										1		1					0	**		
denthony	Rice	1,684	13	75.5	*******	103	31	38	28	43	0.47	- 2.24	0.27	0.0	6	19	17	11	8. 8W.	Percy Torrey. R. H. Beebe.
hland	Clark	1,951	22 17	74.1	$+4.2 \\ -0.3$	105 95	11	36	27 28	48	0.21	- 1.84 + 1.82	0, 12 1, 78	0.0	8	21 5	9 24	0	8.	C. W. Carson. O. E. Sanford.
arlington	Coffey	940	6	71.4	*******	96	4	41	271	34	6. 16		2.66	0.0	5	13	11	6	8.	Chase W. Brown.
marron	Gray	2, 700		71.2° 75.4	*******	96°	19† 12	33 9		500		*******	0.01	0.0	1	22	7		se.	Fred Mallonee.
oldwater	Cherokee	898	20	72.0	+ 5.3	93	19	44	27 28 27	42 31	4. 19	-1.61 + 0.29	0.48 1.63	0.0	8	17	8	5	SW.	J. L. Stanley. O. E. Skinner.
olidge	Hamilton	3, 348	13	69.2	+ 2.2	94	16†	36 35	27	48	0, 25	- 1.14	0.25	0.0	1	18	9	3	80.	W. R. Padley. E. B. Greene.
ttonwood Falls	Chase	1,234	1	70.4 68.4		94	18 18	29	271	42	5.50	******	1.65	0.0	6	16 18	3 7	9	80. S.	Jas. Sharpe. W. H. Morton.
inningham	Kingman	1,680	26	75.00	+ 4.2	103b	19	36*		450		- 1.26	0.75	0.0	4	17		4	ne.	W. H. Morton.
Dorado	FordButler	1.291	36	70.8 71.4	+ 2.6	96 94	22 3†	38	27 28	42 36	0. 26 3. 14		1.04	0.0	8	14 20	14	3	S.	U. S. Weather Bureau. W. Y. Miller.
inwood	Barton	1,790	35 29	71.5	$+2.5 \\ +2.3$	100	18	35	27	43	1.16	- 1.03	0.51	0.0	8 7	12	15	3	ne.	Martin Musil.
nporia	LyonGreenwood		14	70.4	+ 2.3	93 98	10	39 38	27 28	38 43	4.31 2.83	+ 0.75 - 1.32	1.07	0.0	8	13	12	3	S. SD.	W. H. Boyles. T. C. Peffer.
dl River	2do.,	925	14	72.7	+ 2.2	99	3	38	28	41	2.33	- 2.03	0.80	0.0	6 7	14	15	1	S.	J. McDaniel.
edonia	Wilson	864	7	73.1		101	19	42	27	37	2.35		1.03	0.0	9	16	8	6	ne.	Ray Swink. B. W. Holmes.
arden City	Finney	2,836	21	70.2	+ 0.8	97	7	35	27	45	0.27	- 1.51	0.15	0.0	3	17	11	2	8.	B. F. Stocks.
eat Bend	Barton	2, 235	3	71.5		98	ii	33	27	45	0.23	*******	0. 12	0.0	6	22	4	4	8.	Isaac Pritchard. C. C. Raymond.
enola	Elk	1,116	23	72.0	+ 1.7	101	3	37	28	41	2.67	- 0.92	1.59	0.0	7	14	11	5	8.	R. M. Lawyer.
oward	Stevens		6	72.7	*******	100	101	35	27	55	2.25 0.08	*******	0.84	0.0	5	15 23	5	2	8W.	J. W. Eby. E. M. Anderson.
itchinson	Reno	1,535	20 37	71.6	+ 1.3	99	18	37	27 28 28 27	39		+ 0.05	2.15	0.0	7 5	16	9 7	5	8.	E. S. Webster. F. L. Kenoyer.
dependence	Montgomery	984	4	74.1	+ 1.9	102 94	19	41	28	31	3.69 6.85	- 0.24 + 3.50	2.02	0.0	11	11	12	12 7	s. ne.	U. S. Wenther Bureau.
ne	Hamilton	3, 440	9			99	71	37 34	27 27	50 48	0.56		0.56	0.0	1 3	18	5 21	4 2	aw. ne.	N. M. Herbig. James Aiken.
ngman	HodgemanKingman	1,504	2		*******	99	18 18	39	27	38	0.56	******	0.63	0.0	6	11	14	5	8W.	B. B. Anawalt.
Crosse	Rush	2,061	20		*******	0.0	7	94	27	40	т.	1.00	т.	0.0	0	10				Rodney Torrey. C. H. Longstreth.
rned	Rearney	2,090	25	68. 6 71. 6	+ 0.3	96	18	34	27		0.58	- 1.60 - 2.09	0.44	0.0	4	19 17	11 7	6	80. 8.	H. H. Wolcott.
bo	Coffey	1, 138	24		- 0.2	90	41	43	27	28		+ 2.20	3.35 2.30	0.0	8	15 12	12		8.	J. J. Bowman. F. W. Schmitt.
beral	Seward	2,843	3	THO G		101	11	38	27	54	0. 29		0.09	0.0	4	15	4		BC.	Dr. R. T. Nichols.
cksville	Stafford	2, 032 1, 495	21 21	69. 3 70. 0	+ 0.6	99	11 18	36 35	27	48	2.26 3.86	- 0.48 + 0.42	2.07	0.0	3 10	10 10	6 2		s. sc.	Mrs. Nelia Poling. Ed. F. Haberlein.
dison	McPherson	1.074	9	70.0	- 0.1	94	4+	36	27 28 27	44	7.06	+ 1.95	2.20 3.00	0.0	7	10	12	6	80.	C. A. David.
rion	Marion Barber	1 310 1, 259	17	70. 2 74. 8	+ 1.4 + 3.8	94 163	111	35 36	27 28		4.23 0.17	+ 0.90	1.87 0.12	0.0	10 2	8 20	18		8.	Jerry Forney. S. P. Garrison.
dora	Reno	1,484	1		1 0.0	4300						*******			****		****		****	S. P. Garrison. M. L. Richenbrode. H. N. Renfrew.
unt Hope	Sedgwick	1,410 1,092	13		*******	*****			****		1.93 5,20	- 0.83	0.96	0.0	3 7	16 15	9 2		9.	H. N. Renfrew. Susan P. Whipple.
ss City	Ness	2,260	17					*****			1.43	- 0.95	1.15	0.0	5		****		****	J. K. Barnd. H. A. Brush.
wton	Harvey	1,454	13 14	71.6 75.7	+ 1.3 + 4.3	97 100	3† 11†	38 42	27	38	5.49	+ 2.20	1.21 0.72	0.0	10 5	18	8 21		s. sc.	H. A. Brush. N. I. Farris.
wego	KingmanLabette	899	16	73.3	+ 1.3	97	201	45	27 28	34	3.46	- 1.18 + 0.00	1.03	0.0	8	10	14	6	sw.	Jas. M. Currigan.
ins	Meade	2,766 1,950	15	70 E		97	2	38	27	51		******		0.0		27	2		****	E. J. Henning. E. H. Ellsworth.
me	PrattSumner	1,218	24	75.4	+ 4.4	103	3	31	28		0.40	- 2.27	0.22	6.0	6	17	9		8.	D. M. Adams.
an	Chautauqua	834 1,040	25 13	71.4	- 0.3 + 1.9	100 101	4	39 39	28 28		1.97 2.62	- 2.27 - 1.86 - 2.76	1, 22 1, 48	0.0	8 5	12 16	9 5		S. S.	A. Y. Buckles. M. A. Webb.
Vases	Woodson	3,027	19	73.24	+3.9	96h	3 7†	361	27	51h	T.	- 1.79	T.	0.0	0	12	12	3	ne.	T. W. Marshall.
dnut	Crawford	1,377	23	72.6 72.2	+ 2.8	94	21 3	43	28 27		10.94	- 1.57	4.41 0.56	0.0	8	15 12	12		SW. SC.	R. C. Harlan. U. S. Weather Bureau
nfield	Cowley	1, 124	16					****				*******		****			****		****	M. B. Light.
tes Center	Woodson	1,068	31	71.7	+ 3.1	98	19	39	27	37	3.00	- 1.12	0.85	0.0	6	9	19	2	8.	J. W. Tipton.
A	Pontotoc	1,001	3 .						:					*****			****			Dr. J. P. McKinley.
VA	Woods	1,350 1,255	6 .	78.6	******	104	3	48	28	41	2.83	******	1.61	0.0	2	26	3	i	8.	L. W. Sandefur. G. D. Teeter.
spaho	Custer	1,575	17	80.6	+ 7.1	102	31	48	26			- 2.90	0. 12	0.0	î	18	11		8.	Geo. E. Marsh.
tlesville	Carter	872 687	9	75.4	******	101	31	43	28	47	1.56	******	0.80	0.0	4	13	9		sw.	H. T. Nisbett. Dr. A. P. Owens.
ver	Beaver	2,500	14	73.6	+ 2.2	100	11	38	27	46	0.15	- 2.04	0.15	0.0	1	24	6	0	8.	W. C. Frager.
ekburn	Pawnee	800 1,350	6 5		******	102 103 f	19	38 48 f	27 28 28		1.42	******	0.65	0.0	4 2	25 18 f	51		S. S.	J. Landis. Frank Rush.
	Hughes	713	6	******	******						0.74	**** 12*	0.28	0.0	5	17	1	12	s.	Thomas Purcell.
VIn		0.08	6	79.2	+ 4.6	100	1+	47	29		0.82	- 1.46	0.45	0.0	4	15	6	9	8.	Chas. L. Tuttle.
andler	Lincoln	865 1, 150	5	79.6		104	3	51	27	42	1.09		0.62	0.0	2	25	4	1	80.	Squire Humble.

TABLE 1.—Climatological data for September, 1910. District No. 7—Continued.

			yrs.	Tem	perature	, in d	gree	Fah	renh	eit.	Pre	eipitatio	n, in i	obes.	lays,		Sky		on.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Bighest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total enowfall unmelted.	Number of rainy of .01 inch or mor	Number of	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind	Observers.
Oklahoma-Cont'd.	Woods	1, 337	13	72.8 80.2	+ 0.6 + 4.7	101	3	30	28	50	0. 27 1. 79	- 1.75 - 0.79	0. 17 1. 75	0.0	2 2	13	16	1 3	no.	R. H. Bruce.
urantldorado	Jackson	1,456	19	79.8	T 1.1	104	3	60 52	281	38 42	1.52	- 0.10	1.25	0.0	2	9	21	ő	80.	Nelson Houk. T. W. Lanham. Pearl Maddox.
Reno	Garfield	1, 269	117	76.9	******	104	3† 3†	40	28 28 28	54 46	0.07	*******	0.04	0.0	3	20 20	10	0 1	8.	Uri. B. Worcester.
rick	Ottawa	839	11	75.6	+ 1.7	97	20	47	28	38	T. 3.69	+ 0.88	T. 2.40	0.0	5	14.	12	4	8.	A. W. Hanes. C. W. Prior.
ort Gibson	Tillman	1, 293	7	80.7	*******	104	3	52	28	38	1.75		0.97 1.35	0.0	3	19 16	11	9	8.	John T. Welsh. B. B. Bradley.
oodwell	Ещя	2, 136	8	74.0		104	11	36 38 43	27 27	47	0.04		0.04	0.0	1 2	26 23	6	0	SW.	C. H. Holmes. S. W. Black.
uthrie	Logan	1.000	8	78.8	+ 5.8	102	1†	43	28	41	1.55	- 1.53	0.85	0.0	3	13	13	4	8.	G. W. Derrick. A. L. Mords.
arrington	Roger Mills	2, 200	1 7 12	75.2 82.4	+ 8.7	103 101•	3†	41 59a	27 27	43	0.00	- 2.25	0.00	0.0	0	13 22	17	0	8W.	T. Compton. Edward Glendenning.
artshorne	Carter	900	17	79.8	+ 5.7	102	2†	55	28	41	0.76	- 2.50	0.65	0.0	2	21	8	1	8.	C. H. Heald.
elenaennessey	Kingfisher	1, 166	16	76. 4d 80. 1d	+ 5.5	102 104b	19	40 52b	27† 29	38h 45d	0.15	- 2.46	0.15	0.0	i	19	11	0	8.	Frank Horsfall. W. W. Parks.
obartoldenville	Klowa		10	79.6 79.6	+ 5.1	107 102	3	52 47	28 28	42 37	1.78	- 3.46	1.78 0.30	0.0	3	12 26	18	0	8.	Roy Benedict. Miss M. Rutherford.
ookerurley	Texas	2,999	5 2	73.8 69.8		103	11	36 40	28 27 27	48	0.06		0.04	0.0	2	15 15	10	13 5	8. 5W.	H. M. Kelley.
ahel	McCurtain	474	3 17	******	1 9 5	*****		35		****		0.79	0.52	0.0		91				C. W. Meyers. M. L. Henderson. T. E. Beck.
ffersonenton	Cimarron	4,000	11	75.6 70.6	+ 2.5 + 2.4 + 5.5	106 96	3	41	28 27	43	0.52	-2.73 -1.75	0.11	0.0	i	21	7	2 2	8. 8W.	L. A. Wikoff.
ingfishercAlester	Pittaburg	608	13 18	79.6	+ 5.5	104	3	41	28	46	0. 29	- 3.11	0.18	0.0	3	13	15		8.	J. C. Cross. Wm. Noble.
cCombangum	Pottawatomie		16 18	78.0	+ 3.5	103	21	53	281	41	1.31	- 1.65	1.05	0.0	2	19	6	5	ne.	Jas. E. McNair. M. J. Northeuff.
arloweker	Stephens	1, 292	10 17	78.5		101	22	40	98	47	0.70	- 2.00	0.35	0.0	9	95	· · · ·	5	8.	W. B. Anthony. Dr. J. B. Baugh.
akogee	Muskogee	614	12	78.2	+ 4.0	98	3	49	28	36	2.28	- 0.76	1.80	0.0	3	21	4	5	e.	Prof. E. N. Collette.
ola	Caddo	1,500	5	76.0 78.2		104 105	3	39 53	27	45 37	0.37	*******	0.37 1.23	0.0	3	23 24	5	1	8.	Thos. Martin. R. N. Schooling.
wkirk	Kay	1, 149	14	78.0	+ 4.8	105	3	41	28	41	0.60	- 2.77	0.60	0.0	1	20	8	2	8.	P. H. Albright & Co. Walter H. Meier.
kwood	Dewey	1,854	7	76.1 77.5	******	99 102b	31	42 41b	27	38 41 ^b	0.06 T.	******	0.06 T.	0.0	1 0	24 23	5	0	s. s.	Dr. F. P. Osborn. Dr. L. H. Murdoch.
dahoma	Oklahoma	1, 247	21	77.6	+ 5.5	100	3 1†	48 45	28 28 28	33 43	1.72	- 1.03	0.88	0.0	6 3	14 22	14	2 2 2	8.	U.S. Weather Bureau.
mulgeeuls Valley	Garvin	880	11	78.1	******	98	14	*****		9.5	3.04	******	2.16	0.0			6		8.	J. L. Maynard. A. M. Foss.
whuska		1,000	12 13	77.6 78.4	+ 6.0 + 5.4	102	31	37 41	28 28		1. 25 0. 35	- 2.34 - 3.42	0.61	0.0	2	13 21	14	3 2	8.	R. C. Block. J. A. Douglas.
via	Johnson	796	9 18	81.0 79.0	+ 5.4	103	21	58 46	20 28		0.31	- 2.72	0. 16 0. 10	0.0	2	28 24	5		8.	R. G. Guptill. D. B. Taylor.
awnee	Pottawatomie	1,041	10	78.2	+ 4.3	101*	21	51° 53	28 28	36=		- 1.11	1.12	0.0	4	12=	6*	114	8.	Neal R. Clark. Dr. W. C. Woodard.
yderllwater	Payne	880	18	80. 2 76. 6	+ 3.7	100	3	41	28			- 2.85	0. 17	0.0	6	24 24	3		8.	J. M. Speidel.
pply	Woodward	700	22	78.7	*******	100	3	42	29		1.29	- 1.14	0.75	0.0	4	1	16		n.	A. H. Trumbo. William Hall.
nita agoner			7	76.0	+ 4.3	100a 99a	19 3†	46°	27 28	35*	0.90 1.56	- 1.82	0.70	0.0	4 0	15° 21°	8ª 2ª		8.	C. E. Lahman. S. L. Hatfield.
aukomis	. Garfield	. 1,258	14	77.8 81.2	+ 4.3	102 102	31		28† 27†	52 36	T. 0.67	- 1.82 - 3.21	T. 0.30	0.0		23 26	6		8.	R. C. Shades. B. A. Swindler.
aurikaeatherford	. Custer	1, 639	9	76.6		103	3	45	28 27†	46	2.11	9.20	1.55	0.0	3	18 12	10 18	2	8. e.	M. D. Reed. B. D. Boulineau.
bbers Fallshiteagle	. Kay	945	12 5	78.5 77.4	+ 3.7	106	3†	42	30	56	2.40	- 2.79	0.90 1.50	0.0	2	21	9	0	e.	J. M. Dankwardt.
oodward	Woodward	1,886	1	75.0	******	101	19	36	28	47		*******	T.	0.0		21	9		8.	R. A. Boyle.
lle	Maries	1,200	18 17	69.8d 72.1	+ 2.6	90*	20	404 51°	28 17			- 0.68 + 0.13	1.78 1.32	0.0	3 5	8d 23	8 ^d		a,d sw.4	A. J. Wofford. V. H. Kirkendall.
pe Girardeau	Cape Girardeau	305	5 20	75.6	+ 3 8	97	79	59	18		2. 95	- 0.15	1.20	0.0	8	25	3	2	w.	D. L. Albert. H. E. Averill.
an	McDonald		11	73.60	+ 2.8	94.	20	520	26	37 =	1.62	- 1.54	1.40	0.0	7	25° 17°	0° 7b	40 .	8.b	H. E. Dean. W. W. Martin.
miphanrmington	St. Francois	589	3 7	73.2	*******	93*	11				1.95								*****	Miss Carrie Sneed.
noodland	. Dent		5	71.4		91 92 95	12	45	27† 17†	40	5, 20 4, 87	*******	1.67	0.0	8	13	4 14	9	S.	A. C. Leech. F. M. Adams.
ensville	Wayne		16	74.2	+ 3.9	95	81	51	20	38	3.71	+ 0.77	1.34	0.0	6	16	14	0	B.	A. G. Templeton. W. P. Chapman.
nton	Iron	925	32 19	70.5 72.9	+ 3.1 + 3.7	92	12	43	28 17	41	4.87	+ 1.38	1.10	0.0	11	9 13	9		8.	W. H. Delano. L. M. Bean.
kson	Jasper	979	32	75.1	******	93 92 92 94 93 87	31	49	28	28	3.10	- 0.19	0.75	0.0	6	20	1	9	sw.	Miss E. Russum.
shkonong mar rble Hill	Barton	964	32 10 30 19	74.2 72.2	+ 3.7	94	19	45	10† 28	35	6.00	+ 1.74	2.48	0.0	12	15 14	13 7	0	80.	J. W. Hitt. E. H. Adams.
rble Hilluntaingrove	Bollinger		19	73.8	+ 2.8	93	77	81	29 10		2.35 5.13	- 1.38 + 1.57	1.15	0.0	9	18°	6		sw.	A. F. Hemdriz. Mo. Fruit Exp. Station.
unt Vernon	Lawrence	1,480	34 27	74.2	+ 2.9 + 3.8	94 93	4† 3†	50	27 28†	34 37	3.76	+ 0.24	2. 10 1. 21	0.0		19 19	6 5		8W.	C. L. White. W. O. Buck.
w Madrid	New Madrid	285 793	16 .					*****			2. 11	- 1.04 + 2.20	0.65	0.0	6 12	14	11	12	80. SW.	Miss Josie Smith. E. E. Steines.
kfieldlen	Howell	1, 246	18 20	70.2	- 0.3 + 3.1	92 90 92	17	51	28 10	31	7.98	4.13	4.00	0.0	6	20	9	1	sw.	I D Evans
rryville	Phelps	1,002	1 29 15	70.4	*******	90	12	45	29 28	33	0, 88 4, 92	+ 1.16	0.38	0.0	10	11 16	3	11	sw.	Superintendent of School Prof. P. J. Wilkins.
ringfield	Greene	1,350	22	74.6 71.1	+ 3.4 + 3.2	90 94 88	8	50	16	23	1.56	- 1.66 + 1.09	0.40 1.56	0.0	7 12	22 12	11	7	8W.	U. S. Weather Bureau.
Kentucky	Crawford		14			92	12	41	27 34	48	6.08	+ 1.09	1.60	0.0	11	13	7	10	ne.	Edwin Pumphrey.
indville	Ballard	445	30	73.6	+ 1.0	92	12		16		1.44	- 1.54	0.63	0.0		10	16		80.	E. W. Horr. Wm. Scherffins.
Tennessee.	Graves		9	78.4		96.	1†				1. 19		0.53	0.0		18*	6.		sw.	
ingtonivar	Shelby	450	28 23	74.8	+ 3.3	96 95 94 92	23	52	18 18	42 35	1.92	- 1.13 - 1.00	0.48	0.0		20	3	7	8.	A. T. B. Etheridge. Miss M. A. Smith.
ivar	Tinton	450 361 311	23 25 23 27	75.4 74.8	+ 3.7	94	23 23 28	53	16 17	31	1.67 0.87	- 1.01 - 1.79	1.08	0.0	5	10	17	3	8.	Miss Hattie M. Moses. J. S. Ruffin.
ersburg	Dyer	310	27	75.3	+ 3.5	94	11	55	16	31	2.83 3.20	- 0.10 + 0.75	1.20	0.0	3 5	26 21	2		50.	Miss M. A. Sinclair. Prof. S. A. Robert.

TABLE 1 .- Climatological data for September, 1910. District No. 7-Continued.

Stations.		4	E																	
-	Counties.	Elevation, feet	Length of record.	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily	Total.	Departure from	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of	Number of part-	Number of cloudy days.	Prevailing wind direction.	Observers.
Tennessee-Cont'd.	Obion	325		76.2		98	11	51	16	37	2.38		1.63	0.0	7	18	10	2	8.	G. S. Martin.
lemphis (ilan Trenton	Shelby	. 345	27	76.8 74.2 74.4	+ 4.0 + 2.4 + 3.0 + 2.7	98 93 93 96 98	23 11	52 48	17	33	1. 21 1. 83 1. 73	- 1.24	0.76 1.03 1.54	0.0	7 2	14 10 22	13 11 6	9 2	8W. 8W.	U. S. Weather Bureau. O. F. Cantwell. Prof. F. L. Dennison.
nion City	Obion	. 300	12	75. 2	+ 2.7	1		49	14	42	0.90	1		0.0	4		16	0	se.	J. B. Kinsey.
liciamity	LawrenceClark	250	18	74.14	+ 4.1	93 95 96		52 52	19	40	2.81	+ 0.03		0.0	5	19	10	1	sw.	Prof. S. M. Samson.
rkadelphia (near) rkansas City	Desha	250		78.4		96	51	55	19	1	0.84		0.67	0.0	3 2	26	3	- 1	sw.	J. A. Ross. W. C. Blundell.
atesvilleee Branch	Independence Van Buren	971	11	77.0	+ 3.2	97	19	53	17		3, 06		. 0.90	0.0	8	16	11	3		Miss Lelia I. Teter. J. E. Scanlon.
enton	Saline	283	. 18	78.2	******	98	22 20	55 55 47	18	1 39	1.99		. 0.75	0.0	3	21	8	1	8.	J. E. Evans.
entonvilleergman	Bencon	1.394	14	73.8	+ 4.9	91 90	121	47	29 10		5.05 3.68		2.52	0.0	6	19 20	7		8. 8W.	U.S. Weather Bureau. John T. Maxey.
lack Rock	Lawrence		6 24	77.2	+ 4.0	99	20	49	18	45	4.08		. 1.33	0.0	6	20	7			S. J. Howe. H. L. D. Whitson.
alico Rock	Isard	361	6					*****			3.46		. 1.00	0.0	4 5					W. H. Stoner.
amdenenterpoint	Ouachita		25 10	77.6	+ 3.2 + 2.3	95 97	11	50 55	18		1.30		0.90	0.0	2	20 22	7 7	1	sw.	R. H. Quarterman. J. M. Huddleston.
larendon	MonroeFaulkner	171	6	76.2	+ 2.9	94	71	54	17	36	0.81		0.40	0,0	5 5	19	10		8.	Mrs. B. E. Bishop. G. H. Burr.
orning	Clay	293	27 18	74.8	+ 3.9	95	23	48 52	17 17	39	1.95	- 1.74	0.62	0.0	6 7	11	15	4	8.	Jacob Brobst.
ardanelle	Yell	330	24	76.8		97	81	52	17	39	1.79	- 1.28	0.60	0.0	7	18	6	6		A. Bernard. Fred B. Brown.
odd City	Van Buren	1, 175	29	73.34		914		504		384			1.30	0.0	6					Neal Dodd.
utton	Madison		9	74.2*		93*	8	55° 50	17	31*	3.47 0.11		0.08	0.0	3 2	28	1	1		Edward Mize. W. J. Moss.
dorado	Union	265	6	79.2	*******	98 964	21	52 504	18	38	0.66		0.39	0.0	27-0	17	6	7		Jeff J. Babb.
nglandureka Springs	Carroll		9	76.4 75.0	*******	95	11	52	29	35	3.67		1.80	0.0	5 7	10	15	5	sw.	J. C. Chenault. S. H. Britts.
yettevilleort Smith	Washington Sebastian	1, 451	21	76.4 78.8	+ 5.2 + 6.1	95 96	19 20	56 60	29 29	30 32	1.09		0.74	0.0	7 9	16 19	6		8W.	University of Arkanso U.S. Weather Bureau.
dton	Hempsted	264	28	******	*******		****	*****		****	0.96		0.84	0.0						B. C. Logan.
ardy	SharpPhillips	643 182	12 25	74.8	+ 2.6 + 4.0	95	10	53 52	17	34	4.77 0.64		0.40	0.0	7 3	21	18		sw.	C. A. Caywood. B. F. Modisett.
ot Springs	Garland	600	4	75.7	******	99 95	221	51	18	40 37*	1.53		1.02	0.0	3	24	5	1	ne.	Hot Springs Water Co
	UnionCraighead	85 345	15	78.2 75.8	+ 1.6	97* 98	23 25	51° 50	18 17	43	2.02 1.65		1.55	0.0	6	12	18		8.	C. A. Berry. Benedictine Sisters.
nction	Union		17	78. 8 76. 6	+ 4.2	98 95 98	47	51	18 18	32 45	1.30		0.80	0.0	. 2	25 14	3 14		8e. 8.	J. A. Lowderback. R. H. Gillespie.
wiaville	Lafayette	262	3 7	81.2		99	21†	44 54	18	40	0.56	*******	0.31	0.0	3			-		F. W. Youmans.
ttle Rock	Pulaski	357 775	13	76. 8 75. 2	+ 3.7 + 2.0	92 94	20 21	61 54	30 16	27 36	3.12	- 0.14 - 0.11	0.89	0.0	8	18	12		ne. sw.	U.S. Weather Bureau. Herman Hentschel.
alvern	Hot Spring	277	23	76.1	+ 2.0	98	8	52	181	37 35	2.30	- 0.30	1.10	0.0	3	14	6	10 .		Miss L. C. Smith.
ammoth Springarked Tree	Fulton Poinsett		6	72.8		91	1†	50	17	33	9.34		4.00 2.02	0.0	8	10	19		*****	F. Wallick. L. Smith.
ena	Polk Newton	1, 100	24	77.8	14.7	95 88	24 23	59 51	29 16	30	3.31	-0.51 + 0.34	1.96 2.44	0.0	5 2	22 21	7 3		ne. s.	R. R. St. John. Theo. Ober.
ount Nebo	Yell	1,750	20	*****	+ 1.3	*****	****													T. G. Church.
	Jackson Franklin		26 19	75.4	+ 2.1 + 1.8	93 96 i	81	55 60 i	17†	32 28 i	2.52	- 1.14 - 0.81	0.75	0.0	6	22	3	5 .	*****	L. R. Cobb. R. M. Adams.
ne Bluff	Jefferson	215	22	78.3	+ 2.6	97	1†	53	18	37	0.92	- 2.82	0.70	0.0	3	23	2			J. M. Hudson.
	Randolph Benton		18	76.0	+ 4.2	101 92	23 12†	45 54	18 27†	49 33		- 0.07 - 1.21	1.14	0.0	5	18	17		sw.	Benedictine Sisters. A. F. Stevens.
ortland	Ashley	122	1	78.6 78.2		97 99	20† 22	49 51	18 18†	41	0.73	- 0.77	0.45	0.0	5 2	14	8	8 .		L. W. Gregory.
gers	Nevada Benton	327 1, 385	22 19	74.0	+ 2.6 + 3.6	92	19†	53	29		2.51	- 0.99	1.00	0.0	7	23 18	7		8.	A. M. Ellsworth. Carl A. Stark.
ringbank	Miller	182 495	23	77.6	+ 4.5	98	8	40	18	41	0.21	- 1.80	0.21	0.0	1 4	18	ii	1		G. Field. H. A. Buerkle.
blaco	Logan	1,050	13	77.8	+ 3.0	97	25	57	291	33	4.75	+ 1.58	2.68	0.0	6	19	7	4	ne.	New Subiaco Abbey.
xarkana	Miller Bradley	332 304	26 15	70.2	+ 2.8 + 1.8	94	23	50	18†	32 39	0, 96	- 1.95 - 2.46	0.68	0.0	3	22 13	11		е.	D. E. Moore. W. J. Savage.
nitecliffs	Little River	206	6 .	****			-			40	0.05		0.05	0.0	1					John E. Payton.
/nne	Garland		17	75.4	+ 1.5	96 100	8	49	19	42 43	2.10 1.10	- 1.59	1.12 0.78	0.0	6	15 23	15		sw.	S. D. Jester. R. R. Poole.
Mississippi.	Sharkey	107	2	77.2		95	1†	50	18	35	0, 63		0.30	0.0	4	21	9	0	sw.	E. W. Cook.
stin	Tunica	200	14	76.9	+ 3.2 + 5.0	97	8	50	17	40	1.97	- 1.50	1.03	0.0	4	25	5	0	5.	H. J. Irvine.
g Creek	Panola Calhoun	230	22	78.2	+ 5.0	97	8†	50	18	40	0.30	- 2.79	0.30	0.0	1	24	1	5	е.	J. M. Cox. J. P. Havens.
halia	Marshall	390	1 .	70.4							1.43	0.57	0.58	0.0	5	14	7		n.	Tallahatchie Dng. Cor
Arteston	I aliabatchie	228	20	79.4	+ 3.7	98	91	50	18	41	0.40	- 2.57	0.18	0.0	1	24	21 3		ne. w.	Dr. G. W. Smith-Vaniz Tallahatchie Dng. Cor
rksdale	CoahomaYalobusha	177 241	3	77.8	******	95	1†	52	18		0. 22 0. 59		0.10	0.0	3	19	14		ne.	A. C. Tuttle. Tallahatchie Dng. Con
rinth	Alcorn	470	22	77.0	+ 4.6	96	23†	52	18	36	2.50	- 0.31	0.64	0.0	8	20	5	5 1	8.	M. A. Candler.
nmark	PanolaLa Fayette	187	1 :								0.27 1.92		1.07	0.0	3	19	11	-	sw.	Tallahatchie Dng. Cor Do.
ck Hill	Montgomery		11	77.0	+ 2.3	100	23	50	20	42	0.67	- 2.42	0.67	0.0		23*	40	20 1	B.	Do. W. H. Eskridge.
ld 1	Hinds Fallahatchie		23	80.3	+ 3.4	100	23	53	18	****	2.07 T.	- 1.15	0.63 T.	0.0	0 .		12	1	w.	E. F. Part. Tallahatchie Dng. Con
yette	Jefferson	270 126	23	78. 1 78. 5	+ 2.7	98	22 1†	57 ⁶	16 18		3.52	- 0.75 - 3.03	2.97 0.02	0.0	3	17	13	0 1	ю.	T. L. Darden. F. L. Harbison.
enwood	Le Flore	140	10		¥ 3.3	95 95 98	22	53 52	18	37	0.28	- 3.63 - 2.87	0.28	0.0	1	22	4	4 .		J. H. Stephen.
rnando	Grenada De Soto	194 391	22		+ 4.0	97	8†	56	16		0.22		0.15	0.0	3	23 22 25 20	5	2 1		Tallahatchie Dng. Con Mrs. Sarah B. Jones.
kory Flat 1	Benton	435	1 .			*****		*****			1.04	*******	0.87	0.0	2	15	15	0 8	w.	Tallahatchie Dng. Con
eciusko	Attala	437	23 20	76.2	+ 2.5		21†	57	16†			- 2.32 - 2.21	0.56	0.0	7	21 23	3 7	0 8	ю.	L. B. Mosby. E. L. Lucas.
ke Cormorant	De Soto	206 182	1 .								0.00		0.30	0.0	i	9	17	4 1	De.	Tallahatchie Dng. Con
lone	Marshall		1 :	******	******	*****		*****			0.47		0.20	0.0	3 .					Do. Do.
rka (Juitman	163	1	80.8	+ 3 4	00	22	57	10		0.35		0. 15 0. 62	0.0	6 .		12		****	J. C. Weir, Jr.
w Albany	Adams	398	1	77.4	+ 3.4	*****	221	57			0.44	- 2.41	0.36	0.0	5 2 1	22 13	8	0 8		Tallahatchie Dng. Con Dr. C. W. Bolton.

TABLE 1.—Climatological data for September, 1910. District No. 7—Continued.

			E	Tem	perature	, in de	grees	Fah	renh	eit.	Prec	ipitation	, in in	ches.	day.		Sky		lon.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeited.	Number of rainy da	Number of clear days.	Number of part- iy cloudy days.	Number of cloudy days.	Prevailing wind	Observers.
Mississippi-Cont'd.	. Claiborne	116	22	78.4	+ 2.6	98 96	8†	48	18	40	2.11	- 1.02	1.55	0.0	7	23	5	2	е.	H. H. Crisler.
Rosedale	. Bolivar	143	1	78.0	*******	96	22	50	18	37	0.87 1.22		0.50	0.0	3	21 14	1	5 15	SW.	T. J. Murray. Tallahatchie Dng. Com
Shoccoe	. Madison		7	77.8		98 98	22	52	18	39	1.64		0.68	0.0	9	22*	5.	2.	8.	J. C. Pitchford.
SuffolkSwan Lake	. Franklin	148	9	79.2		98	22†	53	18	36	3.68		0.84	0.0	10	16	9	5	ne.	Prof. Geo. H. Kent.
Tehula	. Holmes	130	5	78.4	******	99	23 23	501	19	410	0.35	*******	0.25	0.0	2 3	14 =			u.	B. F. Saunders. Dr. M. P. Winkler. Prof. J. H. Dorroh.
niversity	. LaFayette	502	17	76.8	+ 2.7	924	23	55 50 56 52	18 18	28d		- 1.29	1.00	0.0	3	21	12	0	8.	Prof. J. H. Dorroh.
UticaVickshurg	. Hinds	247	39	77.8	+ 4.0	96 94 98 98 97	22† 22 23 23 23	56	18	37 27	4.20 2.51	- 0.83	1.90	0.0	5 7	17	15	0	n. n.	Dr. J. B. Dudley. U. S. Weather Bureau.
Vicksburg Water Valley	. Yalobusha	300	21	78.4	+ 4.0 + 3.7	98	23	52	18	36	0.90	- 0.83 - 2.53 + 0.01	0.80	0.0	9	22 17	15 7	1 2	e.	Miss Loula Erikson.
Woodville Yazoo City	. Wilkinson	560 116	17 16	78.5 78.4	+1.3 + 1.9	98	23	57 51	18†	32 35	0.44	+ 0.01	1.63 0.30	0.0	3	24	11	3	Se. BW.	James E. Lee. W. H. Courts.
· · · · · · · · · · · · · · · · · · ·				10.1	T 1.0		20		10	90	0. 22		0. 00	0.0					nw.	W. H. Courts.
Abbeville	Vermilion	18	22	78.9	+ 0.5	94	23	57	19	29	4.92	+ 0.74	1.70	0.0	13	15	7	8	e.	Hon. C. J. Edwards.
Alexandria	Tanginahoa	130	19	79.0 78.2	+ 1.7 + 0.9	98 98 97	1† 22	50 53	19†	45 35	2. 19 4. 93	-0.66 + 0.38	1.30 1.65	0.0	5 12	13	6 23	11	n. n.	Miss Nellie Graham. Miss Lula M. Wentz.
Baton Rouge	E. Baton Rouge	35	22 22	79.4	+ 1.5 + 1.3	97	8 6†	64 55b	19	29	3. 29	- 0.33	2. 10	0.0	10	25	2 8	3	ne.	Elmo M. Bott. C. S. McFarland.
Burnside	. Ascension	20	10 20	78. 7 81. 5	+ 1.3	95h 91	6† 22	55 ⁶	19	33b 12	5.09 9.33	- 0.33 - 0.28 + 2.65	1.75	0.0	11	12 14	10	10	*****	C. S. McFarland. Graham Myers.
Surrwood	Plaquemines		20	78. 2	+ 1.3	935	8	60b		26b	5.08	T 2, 99	1.80	0.0	7	17	8	5	ne.	C. E. Smedes.
Calhoun	St. Martin	180	17	79.4	+ 4.2 + 0.8	- 98	1†	48	18	43	0.34	-3.09	0.13	0.0	5	11	19	0	S.	C. E. Smedes. N. L. Exp. Station.
henevetlle	Cameron Rapides	67	15 20	79.8 78.0	+0.8 + 1.1	91	1	66 50	19	24 39	3.33	- 2.26 - 1.97	1.35	0.0	4	11 20	6	8	se. n.	State Biologic Station. Walter I. Tanner.
Hnton	E-Bel F CHCIMBB	113	20	77.8	+ 1.1	96 95	23	55	181	32	3.98	+ 0.22	1. 27	0.0	9	15	9	6	n.	John A. White, Jr.
Collinston	Morehouse	65	8	******														7		W. A. Page. Mrs. Lucille Champagne.
Jovington	St. I ammany	39	17	79.1 80.2	+ 1.4	99 100	23	55 53	18 18†	38 43	3.88 0.68	- 0.51	1.06 0.51	0.0	11 2	19	17	0	e.	J. P. Lucas.
Dodson Donaldsonville	Ascension	33	20	81.4	+ 2.6	95 95 i	21	62	19	30	10.37	+ 6.05	3. 12	0.0	10	23 14	4	3	e.	John F. Park.
armerville	Union	177	20	78.01	+ 2.4	95 i 95 a		51°		381	0.94	- 1.64	0.65	0.0	5	14 22	16	0	n.	W. P. Chandler. R. Z. Sclater.
Ferriday	St. Mary	10	3 18	77.6 80.2	+ 1.3	97	8† 6†	57	18 19	37*		- 3.16	0.87	0.0	10	18	6	6	n.	Miss Josephine M. Bonney
Grand Cane	. De Soto	302	4	79.9		100	8	51	20	46	0.20		0.10	0.0	2	23 17	0	6 7	S.	Miss Josephine M. Bonney Charles M. Huson.
Grand Coteau	St. Landry	93 44	23 15	79.8 79.0	+ 2.4 + 1.8	96 98	22	58 53	19 19	32 38		- 0.62 + 0.49	1.65	0.0	8	18	13	0 3	80. 80.	St. Charles College.
louma	Terrebonne	******	19	78.4	- 0.1	95	23	54	19	32	6. 10	+ 0.16	1.40	0.0	10	11	9	19	ne.	C. C. Curr. Prof. H. M. Foote.
ena	Catahoula				1 0 0	100			00		1.06	9 00	0.33	0,0		ii	15		De.	A. S. Harrell. J. F. Buch.
enningsafayette	Calcasieu Lafayette	30 36	12 21	80. 8 78. 8	+ 2.9 + 1.2	100	8	57 56	20 19	37 31	0.85	- 3.88 - 2.65	0.45	0.0	5 7	16	10	4	ne.	J. J. Davidson.
ake Charles	Calcasieu	22	22	78.6	+ 1.0	99 95	8	56 56	191	42	0.85 2.54	- 1.15	1.60	0.0	2	10	0	20	0.	A. O. Boudreaux.
akesideawrence	Cameron	6	9 18	80.8	+ 1.6 + 1.8	95	21	65	15† 20	30	0.50 4.61	- 3.74 - 1.89	0.50 1.25	0.0	9	17	6	7	n. ne.	Miss L. T. Nunemacher. H. C. Warmoth.
eesville	Vernon		2	01.4	7 1.0	80	-1	99	20	90	4.01	1.00	1.20	0.0						C. M. McFarland.
eesville	Bienville		23	******	******						0.46	- 2.59	0.30	0.0	3	21	8	1	8.	Dr. E. A. Crawford.
ogansport	De Soto	192 45	21	77.9	+ 0.3	97	23	52	19	38	2.64	- 0.46	1.05	0.0	ii	24	3	3	ne.	Mrs. Bettie M. Dennis. Chas. B. McNeill.
finden	Webster	194	18	78.8	+ 1.9	99	22	51	19†	44	0.65	- 1.68	0.32	0.0	4	15	9	6	n.	Miss Ethel Fort.
fonroe	Ouachita	82 14	22	82.4	+ 5.6	101	91	56	18	37	0. 54 4. 00	- 2.36	0.36 1.87	0.0	10	22	8		n. ne.	Kenneth F. Stiles.
ewellton	St. Mary		5 3	78.0	******	94	20t	50	17	35	1.72		1.25	0.0	3	19	11	0	n.	Virgil E. Kinsey. John D. Fults.
ew Iberia. ew Orleans (1)	Iberia	15	20	78.0	+ 0.4	91	41	60	19	23	8.00	+ 3.94	2.15	0.0	9	16	11		80.	Mrs. Jno. A. Gebert.
lew Orleans (1)	Orleansdo	51 18	40 21	80.3	+ 0.4 + 2.3 + 2.5	93 97	8 7	67 57	19 19	22 32	6.08	+ 0.10 + 0.06	0.98	0.0	11 12	14	13	13	80. 8.	U. S. Weather Bureau. Sugar Exp. Station.
pelousas	St. Landry	83	18	79.6	+ 1.8	97	61	53	19		2.63	- 1.00	0.91	0.0		23	1		n.	Sugar Exp. Station. Andrew Moresi.
aradis	Nt. Charles							*****												Louisiana Meadows Co.
lain Dealingayne.	Bossier	268 44	18 18	79.6	+ 3.1 + 1.2	98	6	51 59	19	35	1.10	- 1.89 - 1.40	0.56 1.60	0.0		21 22	9		se. n.	Leon Sanders. A. P. McNeil.
cserve	St. John Baptist		8	81.4		101	23	58	19	34	6. 91		2.42	0.0	10	12	8	10 .		Leon Godchaux Co., Ltd.
obeline	Natchitoches	147.	13	78.8	+ 3.3	99 100a	7†	49 54b	20 17				0.80 1.50	0.0	2	14 19	11		e. sw.	Miss Ruby McCook. J. C. H. McKinney.
ustont. Francisville	Lincoln	115	6	80. 9 78. 5	+ 2.6	93	91	58	19	30	4.05	0.10	2.75	0.0	2	28	0	2	ne.	L. P. Kilbourne.
chriever	Terrebonne	17	17	79.4	+ 1.1	96	71	58 54	18		6.06		3.25	0.0		19	2		0.	Chas. V. Moore.
hiridanhreveport	Washington	240	39	80.0		96	2	60	19	28	0.69	- 2.53	0.52	0.0	3	21	9	0	se.	D. A. Self. U. S. Weather Bureau.
mmesport	Avoyelles	249	5 .	80.0	+ 4.3	30	3	90	19	40	2. 21		0. 75	0.0	9	5		13	ne.	C. T. Leigh.
outnern Univ. Farm	Jefferson		15 .	******	******	*****					5. 15	+ 0.43	2.00	0.0	9	15	8	7 1	Be.	F. L. St. Martin.
ugartown	Calcasieu	91	17	80. 0 78. 0	+ 2.8	94 100b	23	56 46 ^b			0.51		1.09	0.0	3 7	2 5	26 28 16			G. W. Richardson. C. E. Speed. H. C. Fondren.

a, e, e, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

* Precipitation included in that of the next measurement.

* Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

* Separate dates of falls not recorded.

* Data are from standard instruments not supplied by the U. S. Weather Bureau.

* Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

Estimated by observer.

Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—Daily precipitation for September, 1910. District No. 7, Lower Mississippi Valley.

																D	y o	f me	onth.														
Stations.	River basins.	1	1	2	3	4	5	6	7	8		10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	98	27	00	1	9 3	
Colorado.		1	1	+	+	-			-		-	-	-						-	-	-		-	-	-	-	-0	20	-	20	-	1.	0 31
nine	Cimarron					1																											
uena Vista	Cimarron Arkansas Big Sandy Arkansas Fountain Oil Creek Cucharas Big Sandy St. Charles Arkansas Fruntain											. 21		****		****	. 03				03			***	***	***							
anyon City	Arkansas	T		œ	.00	.01	****	****	****				T.	.02					T.			T.		. 03	.01		T.						
olorado Springs	Fountain						****					****	. 10	****	.08	. 32			.08	T	79	òi	. 12	*			· · ·						
ipple Creek ehara Campe	Oil Creek					***							. 38									. 10	.08	.53	.05		1.	****	***				
ds	Big Sandy					***	****	****	****	****		T.	****	****	****			.04				.02											
drview	St. Charles	***										T.	****							30	49	17	.00	07	***			****					
emont	Arkansas Fountain Little Arkansas Fountain Big Sandy Grape Creek		09 (09	***	***	****	****	****																					****	***	* ***	
rfield	Little Arkansas	T		05	40	. 22	.01	****		****	****	****	11	T	15		T		. 05	.03	11 .	. 44	T	.06							T.		
en Eyrie	Fountain								****	****		****		.01					***	*		. 10	. 43	01	***	**	T.			****			
rmit Lake	Grape Creek	***		00				****	****	****						. 03					07		.77	05 .									
ehne (near)	Purgatoire		0	05							****	****	****		****		***	***										***		****			
ke Moraine	Arkansas						***			****		****							***			02		03	04	òi		00		****			
mar	Arkansas		1			***				****				. 21						20 .	25 .	27	.23 7	Г.							***		
Animas	do		3	12						****	****	****	T.		***						3	Г.	P			.,	· ·		***				
Veta Pass	Arkaness	***			10		***						. 10									12		10	**	**	1.		****	****	***		
non (near)	Big Sandy		1		05	C.	***						.09	. 12	. 11	***	T.		T. .	29 .	02 .	12					T.				***		
drid	· · Purgatoire														***	***	***				**	00	99	49 .	10	**							
rshall Pass	Purgatoire	***	. T.								****		****		T.				02					13			***		***	****	***		
blo kyford (near)			1					***	***	****	****	****	T		***	***				** - *	10 2	08											
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or	Oil Creek							***	***	***		***	****			***					. T		02		03								
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teliffe	Oil Creek Cimarron Grape Creek Clear Creek Arkansas	** **	T.		12		07	*		***					***			7	r		13 .1	16 7				1	***	4.	***			****	****
tman	Arkansas	т.	T.	1:5	25	45	00			***	***	***	. 18	.07	31 .	7	r. 7	r	01 .	09 .0	1 .!	52 .	12			. 1	Г					****	
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Ranch	- Canadian													12	***	10	* - * -	** **	**	4 0	9		19				***			. 90 .	***		
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i Ranch	Canadian Red . Canadian										11										****							** **		81			***
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Table 2. - Daily precipitation for September, 1910. District No. 7-Continued.

	1															Day	of	mon	th.													
Stations.	River basins.	1	2	3	4	5	0	7	8	0	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
- 0-44		+	-																									-	+	1	1	
Texas-Cont'd.	Red														T.														-			
zareth	do	T.											****	98	T.						****		****		T.				T.			
mpa	Canadiando					****	****																									
ris	Red		. 25	T.			. 27			. 33																						
omone	Canadian	01				. 65	7			****				****	. 14						****			****			****				****	
ngo Crossing	Reddo				****	.00	.29	. 4.																								
mero	Canadian	01	2						****						. 53	.02							****									
erman	Red					1.01				****	****	****						****		****		****	****			****	****					
phur Springs	Canadian		1		****					****						****							T.		T.							
ilia	Red	. T.	T.	T.											T.						****	T.			T.			T.				
infield	do			****	****	.34										****	****	****		****			. 22				****					
Kansas.	Arkansas	20																								. 27						
thony	do	01	.01	. 02	T.	1.64				T.					T.	T.					****	. 03	. 02			T.	T.					
hland	Cimarron	07	1.12	90	02	1 64			10				.01		.01	T.			****			****	****	****	****	. 19	. 67					
urlington	do	. 1. 40	1.3	2.66	.72	1.00			. 30														T.				1.09					
marron	Cimarron	. T.			T.																T.		T.			T.						
oldwater	do	00	. 45							.06		T.			T.	T.					****		.14	.05 T.								
olidge	Neosho		- 30	1. 63		. 57		1.04	.00		****															. 25						
ttonwood Falls	Neosho	1.41	. 54	T.	T.	1.65			. 40	T.					T.	***										. 18						
ouncil Grove	do					***							7	T.		T.	****				****	T		T.		.50		***				1
odge City	do	91			T.	. 15			T	. 03	****	****		1.	.01						. 03	Ť.		T.								
Dorado	do	64	1.0			. 19			. 80					т.									.04	. 04		. 05	. 34					
llinwood	do	51	01		T.	T				100			.03	T.	. 02									.05	. 48	91	. 39	***			***	
mporia	Neosho	98	1 0	.05	.08	2.25			10	T				T.		1							T.	T.			L. 62					
all River	do	T.	. 30	.02	.35	.80			. 25	T.					T.								. 01	T.			. 60					
argo	Cimarron														1									.05		5	1.00					****
edonia	Virdigris		.41		. 04	.49		. 18	.00			****	T	T.	T.		****		****		****	.02		. 05			. 10				1	1
arden City	Arkansas		****	****	****	****	****	****	1.																							
reat benugg	do		.0		T.								. 02									****	. 01			. 05						
enola	Verdigris		. 00	T.	1.59	.50		T.	.20	T.												****	T.			.06	1 00					
oward	do	T		. 10		. 84			T				T.	T.	T.			****		.08			****		T.							
ugotonutchinson	Arkansas		5 .16			.04																. 02	. 08			. 65						
dependence	Verdigris		T.		. 14	2.02		. 60	T.						-								T.	. 01	T.	T.	. 92					
la	Neosho	04	1.5	2. 15	.30	.82		.04					T.		1.		****	****	****	. 56		T.	T.	T.	1.	.00	. 90		1		1	
tmore	do	. 20		1																		T.	T. T.	. 22		. 14						
ngman	do	2	. 00			. 29			T.	T.						T.						T.	. 21	T.			.11					
Crosse	do								T								****	****			****	T		T.		****	T.	1				
kin	do	4		****	****		****		1.		****											.01	. 01									
bo	Neosho	1.6	7 .3		. 05	3.35			. 20	T.				T.									T.	. 08			1. 32					
Roy	do	24	. 90	2,30	. 74	.77	.70						T	T	T	T		****		T	****	.05	.08	. 05			. 05			* * * * *	***	
beralacksville	Arkansas	2.00	0		.01		****	****					T.	T.	T.	T.		1::::		T. T.		T.			. 17							
cPherson	do	. 74	12.20	0 .02					. 27	. 10													. 05	.03		. 13				22		
adison		3.00	. 64	. 03		1. 25			. 10				T.	T.		T.		****		****		****	01	.03	T.		1.36			0		
arion	Neosho		.41		T.	. 23			. 61	. 02		****	1.	1.	1	1.							T.					1				
edora	do																															
ount Hope		50	0			. 96																				.40						
eosho Rapids ess City	Neosho	. 06	.75			2.20			.20			00					****	****	****	T.	T.		1. 15			T.	. 12					
ewton		7				1.00			1. 21				. 01										1.18	.01		. 12				64		
orwich	do	72	2			. 05			T.	1.			T.										. 03	T.		. 65						
wego			. 2		1.00	.43		. 65	.03		****				T.	****			****	****	****		. 92		****	.01	. 40	1	1:::		1	
ains	Cimarron																															
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dan	Verdigris			. 22	T.	. 05 1. 22 . 04	. 05	. 07	T.	. 13	4	***			de e e e			****				****		T.	. 00	****	1.45					
oronto	Cimarron			. 00	. 40																			T.			T.					
alnut	Neosho	12	2.00	T.	4.41	1.32	T.	1.37	. 19													T.	T.	T.	. 15	. 16	1.32				***	
ichita	Arkansas	12	.07	****	. 55	.01			.30	. 01		****	T.		I.		****				****		. 10	T.			.00					
ates Center	Verdigris		. 8	. 72	. 15	.39			. 18														T.	T.			.71	1				
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ia	Canadian				****				****												****		****	****	****						1	
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apaho	Washita					. 12																										
dmore	Red		1												****		****		****		****	****	****	T.	***		04	6				***
artiesville				T.		. 45							1	1				1		T.			T.	T.	****							
ackburn	Arkansas	T.	. 60													1							.07			T.						
che	Red					2. 22		.42											****								****					
lvin	Canadian					15	.26	.42 T.	.04		****	****				****	****		****	****	****	.08			T.			T				
attanooga	Red		- 4			62	. 10	1.47																			T.					
ickasha	Washita					.78	T.	.75																			T.					
oud Chief	do					.35				T.					T.	T.							T.	T.	***		1					
urant"	Cimarron				. 17		1. 75		. 10	T.		****		1									T.					0	4			
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ick	Red		1.4		T	2.40	. 73	T.						1								.23	T.	T.			.1	1 .0	3			
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ederick	Dad				T.	1.35		.06											de un u			****	***	T.								
oodwell	Canadian					1	****	****	****			. * * .	****						deve-		****		1.14			***						
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lymon	Canadian	-			1			1				1	1	1			2							1					-			1

Table 2.—Daily precipitation for September, 1910. District No. 7.—Continued.

		1													1	ay	of m	onti														
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Oklahoma-Cont'd.		1	1				1	T	1		1	1	1	1	1				1	1							1	1	1			
[artshorne	Canadian	700						4							T			****	***		AXX	. 50	****		* * * *		. 65	120		T	T	***
lealdton	Reddo Red		1		. 14		1												***				T.									
leiena	do					.0	8								T.										****				****			
lobart	Red					1.7									T.						- 05					****	T.			***	6.000	
oldenville	Canadiando				T			. 2					T		****	****		****	***		.00	T		T			T			****	****	***
looker	do																															
dabel	Red			0.00	4	And the second	A						ALCOHOL:	2000																		
efferson	Arkansas	1 190			. 52											****			***	***	***	T	T.	T	****	****	****				****	***
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[cComb	do					: 0	-41															· ·		****							****	
fangum	RedWashita					1.0	T.							***	. 26					400	***	1.	****	****	****			****			***	** *
larlow	Canadian					.3		.3	5																							
fuskogee	Arkansas		T.			1.8	0 .0						***		****					***	T.	. 46					T.					
futual	Canadian Washita				. 37	1 0									07	****	****	****		***	***		· m	****	****	****		****	****	****	****	****
Veola	Arkanasa					. 00			1	100															1							
orman	Canadian																								****	****						
akwood	Canadian do Cimarron Canadian				.00					. T.			****		T.	700			***	***	T.			T.	***	-	T.		****		****	
keene	Cimarron	T	10		10	1.		· a			****	****		T	****	1.			***	***	1.	T	T	T	****	1.	00		****	****	****	
klahoma																																
auls Valley	do														****							***	***	· · · ·		****						****
awhuska	Arkansas	T	T.		****	. 50	***	. 0	T.	***	***			T	T	T	T		***	***	***		T. 02	T.	****	1.	.07		****	****	****	****
erry	187 1-14					. 12	. 16								****																	
ac and Fox Agency	Canadiando							. 10)																							
hawnee	do					1.12	.00	.5	.2			***	****	****	100							T.	****		***	****						
nydertillwater	Cimeron		.00		***	1.94		14	1	7		****		****	. 16	****		***	***	***	***	****	T	T	****	****	10	.00	****	****	****	****
upply	Canadian																			***												
ulsa (1)	Cimarron Canadian Arkansas .do .do .Cimarron Red .Canadian		. 28	.04			. 21	.78																								
inita	do		T.		****	. 70	T.	× * * :	***		***	****		****	****			***		***		01	T.			. 20				****	T.	
agoner	Cimarron		. 00		T	T	. 01		***			1	****	****	T	T			***	T.	***	T.	T.	T.	T.	T.	T					
aurika	Cimarron. Red. Canadian. Arkansas. do Canadian. Meramec.	. 30				T.	. 11	. 26						****								T.										
aurika	Canadian		. 15	T.		.41	1.50													***	T.						T.					
ebbers Falls	Arkansas	02		.90	****	9 84	.10						****		****	***		***						****					****	****		
hiteagle	Canadian			****	T.	1.00	***		***	****		****	****	****	****		****	***	***	***	***	***	T.	****	***		****	****	****	****		
Missouri.	Community	1	1	1	-		1	1	1	7	1	1		1	1								-					1				
																															****	****
ape Girardeau	Black		1. 14	.00			1. 32		***			****	****	****	****			***	***		***	***		****	****	****	. 22	.31	****	****	****	****
aruthersville	Mississippido	08		. 45		. 15	1.2		.0											T.	. 05				T.	1.01		. 03				
lean	NeoshoBlack	01	. 05		.01	1.40	.00	.00																			. 07	****			****	
ioninhan	Black	10	. 25	. 02	****		. 37					****						***	T.	.07 .		***	. 25	.54		****	***	. 35		****	****	****
armingham	Meramec	. 10	.07	1.50	. 17	. 80	.30	1. 10		****	****		****	T.	T.	****		***	***	T.		***		. 15	. 05	. 62	.08	. 17				
ano	Mississippi	. 1. 14		. 75	.07		1.31	.36										***		***	T.	***			. 20	. 45	.57					
reenville	Mississippi	.11.34	T.	. 25			. 94																		.47	. 10		. 61				
ollister	White	T	1.10	.05	.05		1.00	.07	***	.05	****	****	****	***	****	***	***	***	***	***	08	***		****	32	1.00	10	1.00	****	****	****	****
ackson	do		- 04		/	1.17	1			. 12								4 4 4 4 4						. 09	000	- 60	0.05					
oplin	Neosho		. 50	. 75		. 50	. 50	.78							****			***		***		***			****	****	. 10	1				
cehkonong	Neosho Black Neosho	13	1 19	2 36	10	95	2, 41	****	. 00		****	****	****	T	T	***	***	***	***	***	1.		***	00	. 20	.28	10.	1.02	****	****	****	
arble Hill	Mississippi			2.00	. 40		1. 14				****		****		*				***	***				.00	. 10	1.05	. 00	. 05				
	Mississippi	. T.	. 35	1.30		. 80	.84	. 14			****							***	***	***	. 15 .	***		. 25				.42				
ount Vernon	Neosho		1.27	****	79	2. 10	. 13	. 02	780			****			****		***			** *		***	***		****	T	. 22	05		****		
eosho	Mississippi		. 25	. 24	. 10	1.21	. 65	. 80	1.	****		****	****	****	****	***	***	***	***	***	***	. 14	.02	****	****	.10	.47	. 40		****		
akfield	White	12	T.	. 10	2.50	. 10	. 11	1. 16	.0							T.				. 02				. 50	. 32	.03	.78					
lden	White																											****			. 08	****
olla	Mississippi		12	1.39	. 08	07	00	40	***	. 17	***	****	****	****	****	***		***	***	***	T	***	***	70	. 08	45	15	.08	****	****		
keston	Mississippi	. 20	T.	. 17			.40		T.	***	****					***	***					***		.30	. 18	.11	. 10	. 10				
pringfield	White	58	1.27	. 03	. 01	1.50	. 10	T.													.01			. 04		. 16	1.05	. 02			. 02	
Kentucky.	Meramee	. 20	. 10	1.20	. 25	1.60	.26	. 60	. 02	****		***			****	***	Т.		***	. 00 .		***	***	****	***	.40	. 80	****				* * * *
landville	Mississippi																															
ynnville	do	08		. 53		T.	. 42		T.	T.				. 11						T.					. 05	T.	T.	T.				
Tennessee.																															1	
rlington olivar	Mississippi			. 18			.00		****	****		****	****	****	****		***	***	***	***			***				. 22	.57	.45	****		****
rownsville	do	. T.	. 12	. 11	1.08		. 14		Lane.	. 22																		1		Sec.		
			. 24	. 10			. 25																						. 28			
ovington yersburg sekson enton emphis iiian renton nion City	do	1 40	.90	. 73	****		1.20	T.		****		****					***					× + × +			****	10	****	1 08	****	****	***	****
enton		39	.07	. 18			1.63		.01		****	****	****			***	***			***			***			.01		.00				
emphis	do	. T.	.41	T.		T.			. 01				. 01							***						. 02	***	. 76		****		
lian	do		.01	. 44	T.	****	1.03			. 02	****	****				***					P.	T.					. 30	. 02	.01	****	****	
nion City	do	T.	T.	30		00	1.54		94		****				****						1.		***			. 19			****	****	****	****
Arkansas,																														****		
licia	White			. 50			1.20								****			***							. 10			1.05				
mity rkadelphia (near)	Ouachita			1.22	* * * .	T.	1. 25		. 10						****						***	. 10	T.					. 14		****		
rkansas City	Mississippi		***	.01			. 40	****	****	****		****	****	****	***	***	***	***	***			***	***	****				. 01	****	.06		
rkansas City	Mississippi	34		.70			.90	.08		.06							***								T.	. 14		. 56	. 28			
e Branch	Arkansas		.50	. 10			. 20			****			. 10												. 76			1.75				
Bron	Uniacoma		. DEE			614						1000											- 1					. 75	***			
ergman	White		.40			J. 30	2.52	****	****	****			****		****	:	***					. 03	***									
ack Rock	Arkansas	. 1. 33	.44	. 10		. 81															Г.			. 21	. 61		80					
inklevill	do		. 92	. 21	. 16							****						***				. 81 .				. 21		.73				
Bee Dest. 88	40			1.00			. 98							****						"	f		***		T.		.48	1,00				
inkley dleo Rock mden nterpoint arendon	Quachita			10		2/3				66		1															-	10				

TABLE 2.—Daily precipitation for September, 1910. District No. 7—Continued.

	Pr											,			D	ay ·	of m	onth	1.													
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Arkansas Cont'd.		T												-								05			. 36			1.41				
onway	White		.60 T	.39			1.35			****				T.	****		* * * * *				. 07	.00			. 45	. 15		. 62				
orningardanelle	Arkansas		. 60				. 26	.00														. 18			. 24			. 15	. 30			
ennard		100	88	16			1.12				****	****			****			****						****				1.30				
odd City			T.	. 15		T.	2.82																						.50			
arl	St. Francis								.03	01		****		08			****	****	****	* * * *	****	T.	.05		****	.00		.39				
dorado	Ouachita	T.	T.	.55			T.							T.															1.10			
ureka Springs	White	52	.90	.30			1.80			****	****						****	****		****	. 16	****	****	****			. 73	.81				
yetteville			74	ti i		93	02		1					0.1	T				***		. 02		T.	.01			.04	. 01			.01	
ilton	Red		. 85				. 84														01		****	****	.50	1. 23	****	1.23	. 12			***
ardyelena (2)	White		1	10	0000		0.0		1					1	1		0000		1		10000		- 417					****				
ot Springs	Mississippi			. 13			1.02																			****	***	1.55	.02			***
uttig		15	30		****	.08	. 62						****												. 10			.40				
nction	White					. 80														****			T.				****	62			****	***
ke Farm	Arkaneas				. 20									T	****	****					****	. 05						.31				
ttle Rock																																
therville														. 03	****							. 00		.01	****			T.	A. AU			
alvern	White	4.00	.83	.02		1. 10	1.86								****						.11	***			. 53	.39		1.60				
arked Tree	St. Francis			. 42			2.02	.0		****	****			T	****			****	****									. 14			T.	
ena			T.	1.20	****	2.44	4.00														T.											
ount Nebo	Arkansas																			****					.42			. 55	. 15	****	****	***
ewport (1)	White		. 74	. 90	****	.00	.43	****	.04	T.	****					***										.41	. 57					
ne Bluff	do		.10			. 12											****								40	1 14		.70			***	***
cahontas						1.60	.72			****	****		****	***				****	****	****	****				. 40							
ondortland	Ouachita	07		. 10			.45		. 12					.00								****	****			****			03			
escott				.31			T.																			****	.02	. 10	1.55		****	
oringbank	Arkansas		. 20	. 18	****	. 62	T.	. 2								T.				****			T.	T.		****			T.			***
uttgart	Arkangag	. T.		. 19		.08			. 10											****	T	T.		T				1. 12				***
biaco	do	T.	2.5	.08		****	. 72					****	****	. 22			****												. 68			
arren	Quachita						. 53	. 24	N																	****						
arren	Red Ouachita St. Francis		T		98	T	. 05		T				****				****			****	****	T.			T.			. 63	1.		T.	
ynne	St. Francis		T.	. 10	.02										***										. 13	.78	.01	.06				
Mississippi	97	T		T.	T		T	01		1			10				-							. 30			13					
nguilla	Yazoodo	1.	.80	1.03	1.	.00	.05				****		. 10				****						T.				T.					
atesville	do																							****	****				30			* * *
ig Creek	do																											R R K K				
anton	Big Black	O		1	10	00				1				1									. 09					****				***
harleston																																
offeeville	do	T.				. 21	. 24														T.			. 12			****					
orinth	Mississippi		. 4	.00	.36	·	.42	.4		. 14				T						****	**	* * * *					.02					***
renshaw	Yasoodo	1.0	7	. 00		.20	.60															. 05										
uck Hill	do					T.			· · · ·														06	12	. 10			T.	****	****	****	
dwards	Big Black	0		T.	. 83	T.		. 04					. 00		.00						T.											
ayette	Mississippi	T.			. 20		2.97		35		T.														****		****			****	****	
reenville	Yasoo		T.	****			.02	***				****				***																
	dodo	T.		T.		. 15			1		1000		T.										T			****		.07	T	****		
	do		. 10	. 10	. 35	17	97					***			****	****																
olly Springs	do	06	. 54	.04	.11									. 20									T.				.04	.01				
osciusko	Big Black		7	.02		. 16	.22			***		***								****	****	T.		****	. 11	T.	T.	T.				
ake Coromrant	Yasoo			. 30																				***								
alone	do	T.	T.	T.		T.	. 12								***				****	****	***	T. 18	1.15		****	****	****		.20			
arksatches			. 6	.04	T.	.11	.01	.2	T.	****	. 02		T.												T.		T.		T.			
ew Albany	Yazoo	T.	.00	3		T.	.36										***	****	****		****	****		****	****	****	****	****		****	****	
ontotocort Gibsop	Mississippi	56	1.5	T.	****	.03	.03	.00	7	****	.22		T.		. 19	T.									. 02							
	Yasoo		1	. 50			. 25			***				***	***						T				****	****	****	****	T	****		
enatobia		T.	1. I	.00	.12	.04	.35	.1	5	****	****		.00		T.								. 14	. 68				. 03				
uffolk	Mississippi	0	.8		. 63	T.	. 76			. 84	. 17	. 16	.02	.0										****		****		. 15				
van Lake	Yazoo	7		70		98							T	***			1							T.		T.		. 10	T.			
niversity	do	1.0	0			. 05	. 25																	1 40			****	T	T.		****	
tica	Mississippi	1.90		T.	. 12 T	.20	.50			19			0		15							****		. 16				.65	5			
cksburgater Valley	dododododododo		0			.80	.01			. 20											T.	T.				(10)						
oodvilleazoo City	Mississippi	4	8 .00		. 05	. 12	1.63	.0		1.06	.08	T.	***						****	****	****	****		I.	. 10	Т.	****		.04		****	
		1		1						1					1	1	1	1	1					1						1	1	1
bbeville	Coast	1.70	0 .54	. 25	. 12	. 02	.20	1. 1		. 66		. 05	.07	.00											1.05			. 00	30	****		
mite	Red	** ***	T	1.65	. 10	.31	.05	1	2		16	****	. 91		.10		****							. 10	.40		T.		. 50	. 65		
aton Rouge	do		. 0	. 06		.39		.0	5 .04		2. 10		.00		. 00										.32		. 24			00		
urnside	do		. 13	. 10	T.	1 00	.37			1.75	****	- 45	. 25	1 14	0				****	****	****			- 40	1. 18	.74	.30			.00		
ades	do	1.00	3		.90	1.00	.26			1.88	.12		.01	T.											.80							
alhoun	Quachita	00	2	T.	.06	. 13				T						***					****	***	.04	***		****	.01	.01	T			
ameron. heneyville	Coast Red Coast do do do Ouachita Coast Red Coast		1.3		T.	****		***		1.	1.10	. 14	. 10								****											
inton																																
ollinston	Quachita				****	T				***			1 0				****	****	****	****		***		****	1.00	.21	.14			T.		
ovington	Dest	** ***		. 25	****		51				.00			1	7	1		1														

TABLE 2 - Daily precipitation for September, 1910. District No. 7-Continued.

															D	ay o	of m	onti	h.														
Stations.	River basins.	1	2	3	4	5	6	7	8		10	11	12	13	14	15	16	17	18	19	30	21	22	23	24	25	26	27	28	29	30	31	Total.
Louisiana-Cont'd.																																	
Oonaldsonville	Coast		. 2.85			T.		1.3	5		3, 12		. 15	. 05											2.00	.30	N		. 05		4000		10.
armerville	Ouachita			. 29		1055																											0,
erriday	do		25		. 14									***						***				***			****				****		
ranklin	Coast	. T.	.30	.01	. 03	.08		.0		****	.77	T.	. 28	. 28	. 15			****	****	****						. 68			T.				2.
rand Cane	Red			****			. 10			****	****				, 10																		
rand Coteau	Coast	. 1. 60		.03	. 02	T.	T.			. 12		T.		T.							***			T.	1.00							****	2.
[ammond	do		1 .47	T.	. 12					1.82				. 90	T.			0000							. 10	. 10							4.
louma	do	8	0 .70		0.0.0.0		1. 10			1.40					. 10			****	***											. 10			6.
ena	Red			****	****						****							****	****				****				Leves						
ennings	Coast		. , 33		****	. 09				****	. 19																						1.
afayette	do		45			. 08			. 01		. 16		T.																				
ake Charles	do	le v e .																															
akeside	do										. 59			****										****									0.
awrence	do		50	. 62			. 10																										4.
ecaville	Sabine																																
iberty Hill	Red			. 10			****																										0.
ogansport	Sabine																																
elville	Red		1.05	. 10	. 17	.30	.08	.31	. 04		.32			T.	. 12								****		. 10						****		2.
inden[]	do				T.	.06								. 15		T.								T.					. 18	T.			0,
onroe	Ouachita					. 12																							. 36				0.
organ City	Coast	16	1 . 17			. 30		.00			.31	. 01		. 80	. 31																		4.4
ewellton	Mississippi			T.			. 22			. 25					T.									1.25									1.
ew Iberia	Coast		0 .05		. 70	. 35	. 45			1.00		T.	.25	. 05											2, 15								8.
ew Orleans (1)	do	98	.32	T.	. 27	T.	.04			.82	. 23	. 68	. 78	. 29			.00							T.	.41					1			4.
ew Orleans (2)	do	. 2. 37		.01	. 21		.02			. 53	.30	. 15	. 45	.30											1.61						1		6,
	do	. 1, 63								.32	1.27	. 86	. 74	. 20																			
ew Orleans (4)	do	. 2, 26		. 01	. 18		. 003			. 40	.30	. 13	.48	. 18											1, 62								5.
ew Orleans (5)	do	1.40	.01	. 08	. 09		.05			1.25	30	.41	. 50	. 22																			
ow Orleans (6)	do	90	.20		. 15		.08			. 90	.21	.49	.63	.32			.06							.02	. 17								4.
ew Orleans (7)	do	1, 58	.09	. 11			. 39			. 40	. 20	. 26	. 86	. 40			. 10						-			****							4.
ew Orleans (8)	do						. 63			.63	.39	. 51	. 91				.06							14	1.01	****				***		0 0 0 0	5.
peloueas[]	do		. 50			.33	. 10	. 91			. 59																						2.
aradia	do																																
ain Dealing	Red					. 20							. 15															54				****	1.1
avnell	Coast				.30	. 16	****	T.			. 16		T.	T																			2.1
merve	do		9 49	. 98	23			.33			54		1.00	99	04		0000					0000				. 97				05			6.
obeline	Red		75	. 23					****					. 40	95									80		0.00			T	. 00	****		2.6
uston	Ouachita	1	1				00000		1.00												****		T	. 00				1.50	**		****		2.1
. Francisville	Mississippi			2.75												T							*				1.30						4.6
briever	Coast	06	45		31		9 15	1 10			30	T	T	1 00	10								000		90		T.						6.6
eridan	Pearl																								.00								0.1
reveport	Red		.08	T		00			****												****	***					****	. 52	****				0, 6
mmesport##	do		36	91	. 13	05	****	. 02	***	****	40	****	****		18					****	****	***		****	****	****							2.5
outhern Univ Farm	Coast	9.00	.36	.21						90	1 62	00	****	1111	. 10					****		***		Tr.	70		. 14			***	PD.	***	
gartown.									****	. 44	1.07	.00	.00	. 10	* 66		***				****	***	***	1.	I.						1.	****	5.
Ilulah.	Mississippi		****		****	***							****		. 00	***														***			1.6
alkeril		. 23	****		****		.04		****	****	****	****	****																				0.
MARCH	Coast		. 602	2. 90	. 20		. 30	****			1. 70		. 15		***													. 25					6.

Table 3.—Maximum and minimum temperatures at selected stations, September, 1910. District No. 7, Lower Mississippi Valley.

-			-	rado.					Mexico		T	********	exns.			or pre-	mber, i			nens.	,.		244 600	and p			homa.	
		Lamar.		Leadville.		Pueblo.		Albert.		Cimarron.		Amarillo.		Paris. §§		Dodge City.		Ellinwood.		Iola.		Liberal.		Wichita.		Ardmore.§§		Bartlesville.
Date.	Max.	Min.	Max.	Min.	Max	Min.	Max.	Min.	Max.	Min.	Max	Min.	Max	Min.	Max	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max	Min.	Max.	Min.	Max	. Min
1 2 3 4 5	97 98 94	55 63 65 62 56	68 70 63 58 59	35 39 43 34 25	89 90 91 89 78	50 60 57 59 50	84 91 81 93 82	57 57 58 63 58	79 84 82 80 77	48 42 51 45 38	88 96 100 92 82	64 66 66 72 60	99 98 98 97 95	71 70 73 73 73 72	83 95 81 86 81	61 68 66 66 58	72 94 81 85 80	61 66 68 67 66	78 80 90 93 80	63 65 67 69 60	91 99 92 93 84	60 61 61 64 71	79 88 97 95 80	61 69 73 70 65			93 101 100 87	64 66 69 68 69
6 7 8 9 10	191 96 75	51 59 56 56 56 59	65 68 73 70 69	32 39 36 37 44	90 93 71 68 95	42 51 52 51 44	86 33 82 76 96	53 64 64 51 53	84 84 82 79 87	39 43 43 42 46	90 92 86 77 95	56 62 56 54 51	92 97 101 98 92	71 73 70 69 69	87 94 74 67 86	55 65 58 49 44	87 93 83 65 81	52 65 64 53 43	85 84 81 69 78	55 70 65 54 51	91 91 91 75 99	49 63 58 55 45	85 89 83 64 77	50 67 64 55 51		*****	87 82 89 73 84	59 60 62 62 58
11 12 13 14 15	92 79	48 51 47 58 58	63 65 61 70 72	41 35 40 36 40	88 71 77 84 86	54 45 46 55 54	93 87 84 87 89	66 57 56 56 58	86 75 80 71 82	46 44 45 43 48	101 84 86 81 85	67 54 58 64 59	97 95 96 96 92	69 67 69 70 66	93 69 77 78 86	69 52 52 58 60	98 78 74 69 84	68 54 53 58 60	91 76 71 71 81	65 61 59 60 55	101 88 87 75 88	64 52 52 51 51	96 73 73 66 78	68 59 59 59 60	** ***		97 97 84 75 87	60 67 67 64 33
16 17 18 19 20	94 95	56 58 60 59 57	72 65 70 72 67	38 42 44 39 40	88 89 86 85 85	56 68 54 61 60	85 86 95 90 90	64 61 60 60 62	79 79 82 83 83	42 41 51 51 51	87 90 92 96 95	58 59 60 63 64	93 93 94 97 99	64 62 61 60 61	91 93 96 94 93	64 64 65 65 67	94 94 100 94 89	63 65 67 63 58	85 87 90 94 90	60 62 65 65 64	93 93 96 98 94	60 62 55 60 60	90 91 96 97 85	64 69 70 70 65			90 93 68 101 99	62 64 65 62 74
21 22 23 24 25	92 91 66 87 85	53 50 48 47 49	64 64 60 60 58	37 33 31 33 35	79 83 66 81 84	50 54 56 47 46	91 90 80 89 91	58 57 51 58	81 82 79 80 80	55 45 44 39 38	92 91 78 89 94	63 69 61 49 60	96 99 98 98 96	62 66 66 65 65	82 96 67 76 89	65 67 54 52 54	82 94 89 88 88	59 67 59 52 56	88 85 84 69 83	62 64 59 56 56	87 96 81 82 93	64 65 57 52 54	88 89 80 74 83	64 60 58 55 59	*****		95 98 95 80 80	64 67 70 61 61
26 27 28 29 30	91 83 90 95 93	46 38 46 51 49	60 62 65 61 68	31 28 31 34 32	63 77 83 86 86	46 38 42 44 50	85 84 83 85 89	59 52 49 55 49	74 81 80 81 80	37 36 42 40 48	73 80 84 83 91	48 46 52 56 57	96 89 88 93 91	68 61 62 63 63	65 78 80 87 93	45 38 46 52 59	80 78 80 90 96	46 35 41 49 56	76 68 73 81 90	48 42 42 52 61	79 79 86 86 94	44 38 46 50 54	77 69 75 87 92	50 44 46 53 64			75 78 81 94 15	61 48 43 47 48
Mns	91.5	53.7	65.4	36.1	82.6	51.5	87.2	57.6	80.5	44.1	88.3	59.1	95.4	66.7	83.8	57.9	85.2	57.8	81.7	59.2	89.4	56.1	83, 1	61.3	*****		89.1	61.8
							Oklah	oma.				-							Miss	ouri.								
	Date to	Friid. 19		meaning.		Mangum.		Muskogee.		Oglahoma.		Weatherford.		Woodward.		Caruthersville		roncon-11		Townson . It		Olden.		Springheld.	Terrarella W	Ly univine. Ay		Jackson, Tenn
Date	Maz.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1 2 3 4 5	99 100 104 103 88	71 74			101 103 101 103 90	60 69 74 64 68	96 97 98 97 93	71 70 70 76 68	97 99 100 98 85	72 72 75 70 70	100 100 103 100 89	61 70 71 76 69	93 97 100 91 85	64 68 72 68 65	95 90 90 94. 92	67 69 67 73 75	81 83 77 90 87	62 63 63 69 72	84 78 94 93 93	63 65 64 71 66	90 83 80 89 86	65 64 55 65 64	83 73 82 88 88	68 63 66 69 67	96 87 90 90 90	66 67 67 69 74	90 87 90 90 91	71 70 72 74 74
9	92 92 101 76 89	55 62 62			88 92 97 81 88	68 67 67 64 54	81 90 94 82 82	71 73 71 62 61	84 86 91 77 84	66 69 69 59 56	86 87 95 77 88	59 62 68 62 51	90 93 93 68 87	47 66 67 58 42	90 97 97 80 81	71 69 70 69 56	83 90 91 78 77	67 70 68 60 47	80 86 89 73 78	60 66 69 58 53	82 87 88 80 77	58 63 61 54 51	77 85 85 70 74	67 71 69 57 54	88 94 95 80	69 70 70 64	91 93 91 81 82	72 73 70 61 63
2 3 4 5	100 95 88 78 87	62 64 63			100 95 88 88 88	54 66 65 65 64	94 94 92 84 86	68 68 66 67 62	94 91 89 78 81	70 66 67 66 64	96 94 86 78 88	52 64 61 61 61	100 90 85 74 87	71 58 57 59 57	93 95 92 82 79	60 66 66 59	86 92 78 79 78	50 61 68 63 49	90 91 78 70 82	55 67 64 62 56	85 90 90 80 78	57 67 67 62 53	85 87 80 67 76	62 67 65 60 56	91 95 95 79 82	54 68 64 66 54	86 94 96 84 80	61 59 62 67 57
9	96 99 102 104 101	65 64 63			95 96 97 98 99	65 65 66 64 65	90 90 95 97 97	63 61 65 64 67	90 91 94 96 96	68 68 66 70	93 96 99 101 99	63 66 65 68 67	93 94 98 101 92	67 68 68 73 64	81 89 90 94 95	54 54 52 56 60	80 84 90 83 90	53 44 51 60 58	86 86 90 93 91	56 58 60 64 65	70 83 87 89 88	52 52 59 66 67	78 82 86 88 87	57 58 62 65 69	84 87 87 93 95	48 53 54 61 64	84 86 89 92 92	49 49 49 54 58
2 3 4 5	100 98 93 96 96	68 74 55			98 98 94 90 97	65 68 57 57	95 98 94 93 97	66 68 64 61 61	96 95 92 87 94	68 72 67 56 71	99 96 95 91 96	63 65 73 54 59	90 94 84 86 96	59 69 64 54 62	88 89 97 90 78	65 59 60 66 64	87 88 89 82 82	58 47 59 64 57	89 92 84 70 85	61 63 68 60 58	87 85 87 84 82	64 56 65 66 60	83 86 84 71 85	64 64 69 59 60	93 92 96 87 86	63 58 56 66 66	92 93 97 99 85	60 57 52 63 59
6 7 8 9 1	64 80 84 95 97	44 40 41 54			73 80 87 92 94	63 56 53 53 59	91 76 82 90 94	61 58 49 59 62	78 76 81 90 91	57 54 48 61 66	68 76 86 94 96	59 46 45 48 60	86 79 83 90 96	51 37 36 52 60	91 80 78 85 85	59 64 59 57 54	83 66 76 80 84	60 57 43 45 46	68 71 76 84 91	66 50 45 50 56	86 62 75 77 84	65 58 53 55 58	80 61 72 76 86	57 51 52 57 60	92 79 84 87 88	59 63 53 53 54	92 81 78 83 85	60 63 58 55 57

		Teni	nessoo.										Ar	kansas											Min	imippi		
		Memphis.		Union City.		Bentonville.		Corning.		Dardanelle. 16		El Dorado. II		Fort Smith.		Little Rock.		Pine Bluff.		Texarkana. §§		Wynne. ff		Clarksdale. §§		Corinth.		Greenville. #
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max	Min.	Max.	Min.	Max	Min.	Max.	Min.	Max.	Min.	Max	Min.	Max.	Min.	Max.	Min.	Max.	M
**	9/1 87 85 88 89	73 70 71 75 75	97 97 90 94 90	66 67 68 72 68	90 87 90 90 90 88	67 66 68 75 68	89 86 85 90 90	64 60 65 75 76	95 93 90 93 93	68 68 68 75	96 92 95 95 94	70 71 73 73 73 75	94 94 93 91 92	72 71 60 76 71	90 86 88 88 88	72 68 69 74 75	97 91 93 94 94	71 70 69 73 75	94 88 92 93 94	73 73 74 74 76	95 91 91 93 92	68 67 67 71 75	95 91 90 91 92	70 71 74 74 75	92 90 88 90 88	70 70 72 66 74	95 92 92 93 93	
	88 90 93 83 80	74 74 75 65 61	90 96 96 80 78	70 71 70 64 70	80 87 88 76 71	68 70 67 58 57	88 93 93 84 81	69 70 68 68 55	91 93 97 90 85	71 70 67 69 60	93 96 96 93 88	74 72 72 72 69 66	88 90 95 86 80	72 73 73 70 66	89 90 92 86 81	72 72 73 70 62	97 91 97 91 87	75 73 72 73 63	92 91 94 52 96	74 72 73 71 69	94 96 100 88 91	73 70 70 68 57	93 95 89 86	73 71 72 72 72 64	92 94 94 86 87	71 70 70 70 62	93 93 95 92 88	
	91 89 92 74 78	66 72 71 67 61	85 94 95 87 90	55 53 65 49 50	88 89 87 73 80	64 66 64 63 57	90 93 91 87 78	56 63 64 67 55	91 94 95 85 85	65 65 66 69	94 93 92 92 92 80	65 67 69 69	92 94 93 89 85	66 70 69 69 63	88 89 91 79 79	65 71 72 67 63	92 94 95 87 85	63 63 70 71 64	92 92 92 91 86	69 70 71 71 71 66	92 94 94 77 81	59 60 66 70 60	82 92 93 84 83	65 69 68 71 62	92 92 94 82 80	62 68 67 70 60	92 92 94 91 85	-
	80 83 84 86 89	60 62 62 67 70	91 90 92 93 94	50 51 51 55 62	82 87 88 91 91	57 56 61 63 69	78 87 89 92 89	56 48 54 60 63	86 88 90 94 90	54 52 53 55 65	88 87 90 92 96	59 59 52 56 61	85 89 91 96 96	62 61 63 64 66	81 83 85 89 92	62 61 61 62 66	87 87 88 91 94	59 59 53 56 57	86 87 87 90 93	61 60 60 61	85 86 88 93 95	53 52 49 50 64	84 85 87 89 94	58 57 52 57 53	83 86 88 91 92	56 54 52 57 60	85 86 86 89 92	
	86 89 91 89 87	70 67 70 70 69	93 94 96 98 84	62 55 54 56 61	88 90 88 80 90	64 65 70 62 65	89 91 95 87 81	63 64 61 68 64	97 93 96 92 95	64 61 61 61 63	98 97 97 95 95	68 64 64 67 66	94 95 94 92 95	69 68 70 68 69	90 92 87 90	68 69 68 71 69	95 94 94 95 93	63 65 65 68 66	91 94 92 93 93	64 68 66 66 67	93 94 96 88 91	62 61 62 65 68	94 94 95 89 92	66 65 66 68 66	94 96 96 89 91	62 64 65 66	93 94 94 89 91	
	58 74 79 82 85	66 64 60 63	93 84 83 86 80	63 56 53 50 53	87 63 75 82 89	59 55 58 55 60	90 81 76 82 86	63 64 59 54 52	94 76 76 85 50	63 65 55 54	94 87 77 88 92	63 66 63 61 59	93 70 82 85 91	66 63 63 66 62	90 70 76 80 88	68 64 63 63 61	93 78 81 86 90	65 62 61 59	92 86 81 86 89	69 64 63 62	90 71 79 84 87	62 65 59 59 55	93 85 84 88 88	65 65 64 60 59	92 86 79 89 92	64 66 64 59 62	92 88 87 88 90	1
•	85.7	67.8	90.6	59.7	84.5	63. 2	87.0	62.6	90.4	63.3	92.4	65. 9	90. 1	67.5	86.3	67.4	91.0	65. 6	90.4	67.9	89.6	62.9	89. 9	65. 8	89.5	64.4	90.8	
					Missi	ssippi.												Louis	iana.									
	Date.			MONCHARO, 83		Natcher. 1		Vicksburg.		Alexandria. 19		Baton Kouge.		Covington.		Lalayette. 11		Lake Charles,		Tonion I		New Orleans.		Robeline, 11		Schriever. 19		Shreveport.
			Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	N
			92 91 91 93 90	70 72 71 72 73	96 96 94 95 95	73 71 72 72 72 74	90 91 90 90 92	71 71 72 73 74	98 94 92 94 92	71 69 70 71 73	88 89 91 90 93	76 70 70 72 73	80 83 91 92 91	75 72 70 71 73	89 87 90 91 89	75 72 74 74 76	96 97 96 97 95	70 69 70 70 70	97 97 98 95 95	73 72 73 72 75	85 87 89 90 89	74 75 75 75 75 76	99 96 92 96 94	69 71 71 72 75	90 90 92 94 94	72 73 73 71 71 72	95 96 94 95 92	
			93 94 95 95 91	72 70 66 68 66	95 95 97 96 91	74 69 70 73 68	91 92 92 92 92 87	60 69 74 71 68	97 96 98 95 93	73 71 70 70 66	91 95 97 94 90	73 71 72 74 68	91 94 98 99 90	73 72 69 70 69	92 91 92 93 87	74 72 73 75 68	97 96 99 87 84	70 69 68 70 65	97 98 100 101 94	75 72 74 74 69	89 91 93 92 87	76 76 76 70 73	95 96 98 96 94	74 68 68 69 66	94 96 96 95 92	71 70 69 68 68	93 92 92 93 87	
			90 90 91 93 87	65 67 68 67 64	97 90 91 95 88	69 71 71 71 71 68	90 90 90 91 85	71 72 72 70 66	94 92 90 93 90	65 69 69 70 68	89 82 83 87 85	69 68 78 77 72	90 86 85 94 94	69 70 70 70 70	83 80 81 91 89	69 72 73 72 72 72	89 88 89 93 92	65 65 65 65	94 95 97 101 94	70 69 70 70 66	88 80 80 88 88	72 71 72 74 76	94 90 91 93 90	65 68 68 66 67	91 80 77 91 92	68 68 72 71 69	92 90 91 93 86	
*			85 82 82 91 94	59 55 50 55 54	88 88 88 92 95	82 65 57 59 60	85 84 86 86 89	61 65 59 62 69	90 92 90 90 95	59 59 53 50 50	82 84 83 85 85	70 70 70 64 68	93 87 91 91 95	63 64 55 56 57	87 85 85 87 90	64 65 60 56 60	95 95 93 95 96	64 64 60 56 56	93 95 93 95 100	62 62 56 58 68	87 82 82 84 88	72 71 68 67 71	90 89 90 89 96	57 56 58 57 49	91 89 88 89 90	64 68 54 55 61	86 87 88 88 92	
	******		95 95 98 91 92	59 62 63 61 61	95 99 98 93 95	67 68 68 64	90 94 92 86 91	70 70 69 66 65	90 96 98 95 92	57 60 63 69 62	86 90 88 90 91	70 65 68 67 65	95 97 94 90 90	61 64 66 65 65	92 93 93 90 89	64 67 69 66 65	98 98 97 96 98	56 56 56 56 56	101 100 98 98 96	66 67 67 67 66	90 92 91 88 87	73 74 76 69 70	96 92 96 91 93	56 63 62 62 63	93 95 96 95 94	63 67 67 68 67	91 92 93 93 91	-
			91 93 86 90 91	61 62 65 63 60	93 96 89 96 95	67 68 65 65 65	89 90 86 86 88	69 65 66 65 65	93 94 88 93 93	65 65 62 62 65	92 90 93 91 94	66 68 67 67 65	91 94 94 86 94	65 65 67 66 66	89 90 90 91 92	67 68 65 65 66	98 97 96 97 97	56 56 56 56 56	100 99 90 95 95	67 67 64 65 64	87 88 89 87 88	74 75 74 75 74	94 98 89 92 95	63 64 58 59 52	92 93 92 93 93	64 66 67 64 64	91 92 83 88 91	
			91.1	64.0	93.7	67.8	89.2	68.3	93. 2	64.9	88.9	69.8	91.3	66. 9	88.9	68.6	94.7	62.5				73.1	93.5	64.2				0

Climatological Data for September, 1910. DISTRICT No. 8, TEXAS AND RIO GRANDE VALLEY.

BERNARD BUNNEMEYER, District Editor.

GENERAL SUMMARY.

The month of September, like the preceding month, was marked by persistently warm weather and by generally deficient precipitation. It was the warmest September in Texas during the last 23 years, while in New Mexico the mean temperature of the month was only a fraction of a degree less than the previous highest September mean recorded during the last 15 years. The precipitation of the month averaged much less in New Mexico and Colorado than it did in August, but there was a considerable gain in Texas. Droughty conditions, however, continued in may portions of Texas, and in some localities water had to be hauled by train and wagon from other points. A moderate excess of precipitation occurred over a limited area in the north-central portion of Texas from Shackelford and Coleman to Parker and Bosque counties, and a decided excess occurred in the lower coast counties and lower Rio Grande Valley; elsewhere in the district there was a conspicu-ous deficiency. In New Mexico the average precipitation was next to the lowest ever recorded in that territory. The rainfall was poorly distributed, being of the midsummer type with widely differing amounts in even near-by localities.

The greatest monthly precipitation in Colorado was 1.63 inch at Hermit; in New Mexico, 3.05 inches at Batesmans Ranch; and in Texas, 10.71 inches at Brownsville. There was no rain or only an inappreciable amount at one station in Texas and at five stations in New Mexico, while at six others in Texas and at four in New Mexico the monthly amounts were less than 0.10 inch. The least monthly amount in Colorado was 0.14 inch at San Luis. Excessive precipitation of 2.50 inches or more in 24 consecutive hours occurred as follows: Brighton, 6.83; Brownsville, 8.21; Brownwood, 5.28; Corpus Christi, 4.44; Dublin, 2.78; Falfurrias, 3.48; Grapevine, 3.05; Kopperl, 3.80; La Parra, 7.75; Laureles Ranch, 5.79; Llano Grande, 5.00; Midland, 2.50; Mission, 5.65; Panter, 2.61; Ricardo, 4.41; and Weatherford,

The sunshine was abundant and averaged above normal. The number of days with 0.01 inch or more of precipitation averaged 5 in Colorado, 3 in New Mexico, and 4 in Texas.

TEMPERATURE.

The monthly mean temperature was 3.3° above normal in Colorado, 2.8° above in New Mexico, and 3.5° above in Texas, the excess of temperature ranging from less than 2° on the Gulf coast to over 6° in northeastern Texas and in portions of the lower Rio Pecos and lower Rio Grande valleys. The change in lower Rio Pecos and lower Rio Grande valleys. temperature from day to day was unusually small, and no cool spells of importance occurred during the month. In the greater portion of the district the warmest weather occurred during the first decade and the coolest during the third decade. The diurnal range of temperature varied from about 8° on the upper Texas coast to about 42° in the extreme northwestern portion of the district.

The highest and lowest temperatures reported were: In Colorado, 90° at Saguache on the 8th, and 19° at Hermit on the 28th; in New Mexico, 104° at Carlsbad on the 3d, and 26° at Red River Canyon on the 26th; and in Texas, 107° at Fairland on the 1st, at Haskell on the 3d and 4th, and at Tilden on the 18th, and 45° at Plainview on the 27th. The local monthly means ranged from 57.0° to 60.4° in Colorado, from 48.2° to 76.8° in New Mexico, and from 71.1° to 85.4° in Texas.

PRECIPITATION.

The rainfall over the Rio Grande watershed was decidedly deficient, except over the extreme lower portion which received from 5.00 to 10.00 inches south of Fort McIntosh. Notwithstanding these heavy amounts the average for the entire watershed was only 1.23 inch, which is nearly 1.00 inch less than the average for the preceding month.

The average for the Rio Pecos watershed was only 0.86 inch, or over 2.00 inches less than the August rainfall. The deficiency

of precipitation covered the entire watershed.

Heavy rains occurred over the lower portions of the coastal plains, but the upper coastal plains and the other watersheds of the district showed a marked deficiency of precipitation, the shortages ranging from 0.77 inch for the Colorado to 2.40 inches for the Sabine. There were, however, a few limited areas in the upper portions of the Colorado, Brazos, and Trinity valleys and in the lower portion of the Guadalupe Valley where the monthly amounts exceeded the normal. The following are the average monthly amounts in inches for the various watersheds: Nueces, 1.08; San Antonio, 0.98; Guadalupe, 2.11; Lavaca, 2.85; Colorado, 2.12; Brazos, 1.37; Trinity, 1.57; Neches, 1.70; Sabine, 0.97; and coastal plains, 4.41. These amounts are much greater than those reported for the preceding month, except in case of the Sabine watershed which showed a decided decrease.

RIVER CONDITIONS

The Rio Grande was rising in its lower portion at the close of August and subsequent heavy rains caused it to overflow, but the flood waters did not reach the high stage of September, 1909. A report of the flood will be found in another chapter of this paper. The upper Rio Grande and the Rio Pecos were unusually low during the month, owing to lack of seasonal rains in the mountains. At the Leasburg Project the water supply during the month was insufficient. At the Hondo Project there was but little water available for irrigation. At the Carlsbad Project, however, water was delivered throughout the month, the total furnished amounting to 4,826 acre-feet.

The volumes of water discharged by the Colorado, Brazos, Trinity, and Neches rivers were slightly greater than during August, while the volume discharged by the Guadalupe was about the same, and that of the Sabine much less Sharp rises of about 16 feet occurred in the Colorado and Brazos rivers from the 6th to the 12th. The stages of the Guadalupe and Sabine rivers are the lowest on record for September.

MISCELLANEOUS.

Frosts.—A general light frost occurred in the northern districts of New Mexico on the 27th, which was probably the coldest day of the month, and killing frosts occurred at a few of the higher northern stations, but the season was so far advanced that little or no damage resulted. Last year killing frosts were reported from New Mexico on the 13th and 14th of September, and light frosts from Texas stations on the 28th and 29th of September. So far this season there has been no frost in Texas.

Cloudburst.—Torrential rains occurred in Comanche County, Tex., on the 5th and 6th, which caused a disastrous flood of the Leon River, a tributary of the Brazos. According to press dispatches a wall of water 25 feet high swept down the narrow channel of the river, carrying death and destruction in its path. A number of houses were swept away, 13 persons lost their lives, and much damage was done to live stock and crops.

FLOOD OF THE LOWER RIO GRANDE.

The flood of the lower Rio Grande was caused by heavy rains which occurred on September 14 in the southern portion of Texas and in contiguous portions of Mexico, attending a tropical disturbance moving inland south of Nueces County. At Corpus Christi the wind attained a velocity of 61 miles per hour from the east on the 14th, but there was very little wind at Brownsville, and it appears that the disturbance broke up over the lower

Rio Grande Valley, its energy being converted into a torrential downpour. From 4 to 8 inches of rain fell in 24 consecutive hours on the 14th in Nueces, Cameron, Hidalgo, and Starr counties. By the morning of September 16 the river had risen 17 feet at Mission and warnings were immediately telegraphed to all points below. Flood stage was reached at Mission on the 19th, and the crest of the high water reached Brownsville on the 23d. The high water mark of the flood of September, 1909, which also resulted from torrential rains attending a tropical disturbance, was not reached by several feet, and the damage appears to have been comparatively slight. The following are appears to have been comparatively slight. reports of the flood received at this office:

Mission, Tex.—On September 14 5.65 inches of rain fell at Mission in 24 consecutive hours, and between Mission and Brownsville the rainfall for the corresponding period was much heavier. The river reached flood stage on the morning of September 19, when it was 26 feet 10 inches above the lowest known water this year. There being no river gage it was difficult to ascertain how this year's flood compares with that of last year, but from those who have been close observers of the river for many years, it is learned that the high water of 1909 exceeded that of this year by about 4 feet.

The heavy rainfall filled up all the low places and resaca beds in advance of the rise in the river, and when the river started to rise there was a vast volume of water that broke through the banks about 4 miles west of Mission and followed the resacas between the railroad and river down to the Arroyo Colorado. A great amount of this water passed over the railroad track east

Colorado. A great amount of this water passed over the railroad track east and west of Mercedes and found its way through the back country to Lyford

Out of a tract of 27,000 acres, 3 miles wide and 14 long at Mission, about 1,800 acres were inundated. Of this number less than 100 acres were planted to crops, mostly dry beans, which were promptly replaced with winter cabbages

cabbages.

The train service on the Hidalgo Branch was irregular for less than one week, and for two successive days there was no mail delivery. After regular service was resumed on the branch line, the main line roadbed between Raymondville and Harlingen became very soft and in several places the ties and rails had sunk level with the surface of the ground.—L. H. Romig.

Llano Grande, Tex.—The recent flood was not as great as the one we had in September, 1909, by about 6½ feet. We suffered no damage here, while it has been reported that some of the canals farther up the river were slightly damaged. A few farmers suffered considerable damage to their crops, which consisted chiefly of California beansand of seed beds for wintertruck. damaged. A few farmers suffered considerable damage to their crop which consisted chiefly of California beans and of seed beds for winter truck. M. D. Wardlow.

ensville, Tex.--Last week I made a trip through the valley to note the effect of the flood and found that the river made a total rise of 27 feet at Mission, overflowing into the resacas at that place on September 18. The water took an easterly course through the Mission tract, covering an area probably 2 miles wide. About 125 acres of crops were entirely destroyed and a great deal of plowed and prepared land was overflowed. The water meandered in an easterly and northeasterly direction, its greatest height being just west

deal of plowed and prepared land was overflowed. The water meandered in an easterly and northeasterly direction, its greatest height being just west of Mercedes on September 21.

At Mercedes the water was 3 miles wide and it was necessary to cross the place by means of boats. The water swept in on the north side of Mercedes and covered the low ground up to the railroad track. This portion of the town is populated by Mexicans chiefly. The remainder of the town was not troubled by the water, except a few houses in the extreme western portion. The water reached Harlingen and backed up toward town on the west side September 24, but was held back by levees. Some fields a mile west of town were 4 feet under water. The bulk of the water, which passed west of Mercedes, reached the low ground south of Lyford and crossed the main line of the St. Louis, Brownsville and Mexico Railroad on September 26, and traffic was disturbed. There was not the quantity of water in the overflow this time that there was in the second overflow of last fall. The overflow this year is estimated generally as being half way between the first and last overflows of last year.—E. C. Green.

Brownsville, Tex.—The Rio Grande was approximately 17½ feet below bank on September 1. On the 2d the river began to rise and reached its highest mark this year at Brownsville on September 23, having risen 15 feet 10 inches. A warning was received from Mission, stating that the river had risen 15 feet in 12 hours on the night of September 1. On September 16 another warning was received announcing a rise of 17 feet in 12 hours. A considerable portion of the land up the valley between Brownsville and Mission was flooded. The towns of Mission and Mercedes suffered from flood, but not to such a degree as last year. About 125 acres of crops were

ruined and much cleared land will have to be replowed on account of the overflow. The flood water was kept out of Brownsville by means of levees. The main line of the St. Louis, Brownsville and Mexico Railroad near Lyford was out of commission for a short time on account of softened roadbed, and the branch line was flooded in several places.—R. M. Boss.

CONSERVATION OF FLOOD WATERS OF THE COLORADO RIVER.

The deficiency of precipitation over the Colorado watershed during the past summer, and the consequent low stages of that river, which broke all previous records for low water, have resulted in a strong agitation for a conservation of the flood waters of that stream. It is very probable that steps will be taken in the near future to prevent a repetition of the losses sustained this year as a direct result of the shortage of water. There are extensive rice fields in Colorado, Wharton, and Matagorda counties, which are irrigated from the waters of the Colorado River. During the past season the flow of the river was so low that irrigation became impossible. The irrigation plants had to suspend operation, and the rice crop suffered accordingly. From the best information available it appears that Matagorda County alone produces annually from 550,000 to 600,000 bags of rice. This year, on account of the drought, the production of rice in that county was reduced to about 100,000 bagsdecrease of 450,000 or 500,000 bags. At a market value of \$2.25 per bag, this would mean a loss of over \$1,000,000. With proper conservation and utilization of the waters of the Colorado River, much of this loss, if not all, could have been avoided.

The Colorado River rises in the western portion of Texas near the eastern boundary of New Mexico, flows in a general southeasterly direction, and empties into the Gulf of Mexico in Matagorda County. Its drainage area is 45,400 square miles. The stream emerges from a canyon at Austin, but south of that city it traverses a rather flat country. Its principal tributaries are the Concho, San Saba, and Llano. The Concho has a reliable flow and furnishes water for irrigation and for power. The San Saba rises in two springs near Fort McKavett in the western part of Menard County and flows in an easterly direction for over 100 miles to its junction with the Colorado. The Llano drains the territory east of Sonora and northeast of Rocksprings and joins the Colorado about 20 miles southeast of the town of Llano. Its waters are utilized for irrigation purposes.

The Colorado River has a more rapid flow than any of the other streams in Texas. The great dam at Austin, which was constructed at a cost of about \$1,000,000, and was broken by a flood on April 7, 1900, is to be rebuilt. It was 1,250 feet long and 60 feet high. The dam at Marble Falls is nearing completion. It will be much higher than the natural dam, which has heretofore been utilized for water power. These dams will probably have a tendency to regulate the flow of the river below.

That there is a great amount of water discharged by the Colorado River, which could be made useful if properly conserved, is shown by the Weather Bureau records of the river stages at Columbus, Tex. The records show that in the last 7 years the river has been above flood stage at Columbus 14 times, and has been nearly bank full a number of other times. During this period flood stages obtained 5 times in May, 3 times in June, twice in August, and once each in April, July, October, and November. The lowest stages occur usually during the winter months. The present drought was preceded by a good flow in May, 1910, when the river attained a stage of 25.5 feet, which is 1.5 foot above flood stage. This water would have been of great value if it could have been impounded and utilized during the subsequent droughty season.

Table 1.—Climatological data for September, 1910. District No. 8, Texas and Rio Grande Valley.

			É	Ten	peratur	, in de	ogrees	Fahr	enbe	nit.	Prec	ipitation	, in ir	ebes.	lays.		Sky.		do.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Date.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy of .01 inch or more	Number of	Number of part-	Number of cloudy days.	Prevailing wind directi	Observers.
Colorado.	Costilla	8, 403	1	57.0		82	8	27	24	50	0.26		0. 19	0.0	3	15	15	0	sw.	L. C. Audrain.
Cumbres	Conejos	10, 015	17	57.2	+ 3.4	86	10	28	81	53	1.45 0.69	- 0.16	0.42	0.0	1	16	19	2 5	sw.	Ida M. Lively. Chas. Speiser. Marion Mason.
Hermit	Hinadala	0.843						19	28		1.63 0.22		0.56 0.12	0.0	10 2	15 20	12	3	w.	Norvin R. Lively
Manassa	Conside	7,700	2	57.61		82	9	271	28	50 1	0.74	*******	0. 27	0.0	7	18	7 3	5	sw. w.	J. B. Chapman. Walter R. Hook. Eugene Williams.
Saguache	Saguache Costilla	7,740	18	60.4 57.4	+ 4.6	90 82	8	29 30	27	51 49	0.80	+ 0.17	0.70	0.0	6	18 18	12	9	w. sw.	Eugene Williams. P. B. Albright.
San Luis Wagon Wheel Gap New Mexico.	Mineral	8, 434	11	54.2	+ 6.3	80	8†	20	6†	55	T.	- 1.34	T.	0.0	0	16	14	0	w.	S. Eland.
Agricultural College Alamogordo (near)	Dona Ana	3,863	44	75.7 76.5	+ 2.7 + 4.2	98 98	3	48 54	30 28†	42 35	0. 23 T.	- 1.22 - 1.03	0. 23 T.	0.0	1 0	17	20 13	1 0		New Mexico Agri. College. Geo. C. Bemis.
Alamogordo	Otero	4,320	34								0.15		0.15	0.0	1	20	8	2		El Paso & Southwest. R. R. Pitt Ross, C. E.
Incho	Lincoln	6, 112	1 2	74.1		100	2	51	201	42	0.00		0.00	0.0	0	19 22	11	0 5	80.	El Paso & Southwest D D
Artesia Aspen Grove Ranch	Rio Arriba	9,000	1								1.01		0.41	0.0	5 5	14	16	0	w.	Will Benson. Junius D. Maupin. John W. Bateman.
Bateman's Ranch Bluewater Bluewater Reservoir Boas	Valencia	6,732	8	******		*****		******												Bluewater Development Co. Do.
Boas	Chaves	4, 154	i	71.0	******	95	11	50	30	37	0.97		0.72	0.0	2 3	21	8	1	8.	D. C. Savage. El Paso & Southwest. R. R.
Carisbad	Eddy	3, 120	15	76.8	+ 2.8	104	3	53	9 27	44	0.75	- 0.83	0.25	0.0	3	23 24	1	3	80. 8W.	U.S. Reclamation Service.
CarrisosoCarson Park	Taos	5, 429 7, 650	2	70.0		89	7	51		****	0.13		0.13	0.0	3		6		*****	El Paso & Southwest, R. R. Lester S. Myers. Frank C. Johnson.
Chama	Otero	8, 650	11 7	58.2		84	8	31	6	46	0. 15	- 1.60	0. 15	0.0	1	27	3	0	aw.	El Paso & Southwest. R. R.
Corona	Lincolndo	6,666 5,800	1	******		000000		******		1	0.50 0.15		0.38	0.0	2 5	9	21	0	sw.	Do. Do.
Coyote	Santa Fe	6,889 6,800	1					******		****	0.33		0.18	0.0		28	0	4	w.	Teofilo Vijil. Erb & Westerman.
Duran	Chaves	6, 272	11	******				*****	****		0.30		0.16	0.0	2	15	14	1		Boyd Williams
Escondido	Otero	4,014 5,590	1 12	******		100	5	*****			T.		T.	0.0	0	13	13	4	80.	El Paso & Southwest. R. R. Mrs. E. F. McBride.
Catancia	Torrance	6, 140	5 32	63.6	+ 2.2	92 87*	1† 7†	32 39*	30 29†	41 46-	1.96 0.90	- 1.07	1.16	0.0	6	16 18	10	4	e. 80.	New Mex. Cent. R./R. U. S. Sanitarium.
Fort Sumner	Guadalupe	3, 960	2	******							т.		T.	0.0	0	24	2	4	w.	F. A. Manzanares. El Paso & Southwest. R. R.
Gallinas Gallinas Planting Station Harvey's Upper Ranch	Lincoln	6,635 7,500 9,400	3	50.4		81	71	34	24	40	1.86		0.79	0.0	7	6 15	23 13	1 2	80.	U. S. Forest Service. Simon B. Warner.
Hillsboro	Sierra	5, 224	13	*****			****	******	****	****	1.00	*******	0.46	0.0	5	9	13		nw.	Dr. Frank I. Givens. A. Porter.
Hodges	Taos	3,904	1	73.5		99	3†	50	29	43	1.48		1.01	0.0	2	22	4	4	8.	U. S. Reclamation Service. A. W. Board.
Hope	Eddy	4,000 9,500	1	******	*******	72	8	*****				*******							*****	John T. Blanton.
lemes Springs	Sandoval	4,300		73.3		98	3	50	27	40	0.36 0.51		0.12	0.0	2	13 24	14 3	3	8W.	J. W. Mosley.
aguna	Valencia	4,500	5	69. 9 68. 0		91 93	10 10†	46	26† 28	20	1.95		1.80	0.0	3	19	9	2		Gus Weiss. P. A. Turnbull.
Lake Valley	SierraSan Miguel	5,412 6,384	23	63.2	+ 2.5	88	31	35	29	47	0.66 1.08	- 1.19	0.31	0.0	3	15 27	14	1	8W.	Wm. P. Keil. Dr. Wm. Curtiss Bailey.
os Lunas (near)	Chaves	5,000	20	69.5	+ 2.8	94	71	36	30	48	0.45	- 1.30	0.27	0.0	1	21 13	9	0	sw.	H. G. Liston. Richard Pohl.
os Tanos	Guadalupe	4.919	5	65.6		90	4	42	281	40	1.70		1.25	0.0	7	14	14	2	w.	El Paso & Southwest. R. R. Wm. Pender.
Mineral Hill	San Miguel	7,050 4,436	5			98	St		****		0.36		0. 19	0.0	3	18	8	4	e.	W. M. Nelson. El Paso & Southwest. R. R.
Mountainair	Torrance	. 6,547	8	64.4		91	10	38	29	46	0.46		0.34	0.0	3	20	9 5	1	8W. 80.	Mrs. John W. Corbett. El Paso & Southwest. R. R.
Noria Orange	Dona AnaOtero	. 4, 114	1			101	9	46	27	44	0.68 0.01		0.60	0.0	2	15 21	10	5	w. se.	Do. Jas. Brownfield, ir.
Orogrande	Lincoln	4, 171	1								0.25		0.20	0.0	2 3	6	20		e.	El Paso & Southwest. R. R. Eugene F. Jones.
)tis	Eddy	3, 100	i			******					2.25		1.28	0.0	4	25	1	4	æ.	A. M. Hove. W. K. Davis.
Otto	Guadalupe	. 5, 285	î			90	22	45	15		0.96		0.82	0.0	2 2	22	8	0	SW.	El Paso & Southwest, R. R.
Picacho (near)	Chaves	. 4,300		******	*******					****	0.60	*******	0.00	0,0		19	12	0		P. D. Southworth. L. P. Adair. Mrs. L. R. Penn.
Red River Canyon	Taos	. 4,000	12	52.8 75.3	+ 3.6	96	101	26 52 42	26 24†	51 43 47	0.60	- 0.88	0.60	0.0	2 5	9 23	12	9	8.	Chas. H. Raitt.
Rio Grande Dam	Sierra	. 6,910	12 5 12	73.4 65.0	+ 4.0	96 97 84	8† 11	46	30 28	30	0.37 1.89	- 1.37	0.25	0.0	11	17	5	8	sw. w.	U. S. Reclamation Service. W. H. Martin.
Roswell	SocorroValencia	. 3,578 . 4,439	14	72.5 75.2	+ 2.2 + 5.7	96 97	24	49	30 27	41 43	0.44	- 1.85	0.34	0.0		16	12 14	10	B. 80.	U. S. Weather Bureau. Atch., Topeka & S. F. R. R.
an Rafaelanta Feanta Fe Canyon	Santa Fe	7,013	37	63.2	+ 2.6	83	8	43	23	31	1, 12	- 0.52	0.55	0.0	6	19	0		ew.	Dr. Chas. M. Grover. U. S. Weather Bureau.
anta Fe Canyon	Guadalupe	. 8,000 4,624	10	71.6		95	10	46	28	43	T. 1.33	+ 0.01	T. 1.11	0.0	6	20 21	0	0	w. w.	Candelario Martines. John R. Chapman.
ocorro	Socorro Santa Fe	6,317	18	71.1 63.6	+ 1.7	99 89	12 8	41 37	13† 30	55 47	0.39	- 1.49	0. 24 0. 29	0.0	4 2	26 14	9	7	W.	J. J. Leeson. Henry Winan. Southern Pacific R. R.
wastika Ranch	Dona Ana	6,400	11								0.38	- 1.02	0. 22 0. 49	0.0	6	15 20	7 9	8	BW.	Swastika S. & L. Co.
Γaft Γajique (near)	Guadalupe	. 5,000 6,900			******	*****		*****	* * * *		0.55	*******	0.35 0.55	0.0	4 7	16 15	11 13	3	8.	A. J. Wilmeth. U. S. Forest Service.
Taos. Taos Canyon	Taosdo	. 6,983	12	63.4	+ 2.1	87	2	36	24	42		- 0.93	0.11	0.0	5 7	21	9	0	w.	Alexander Gusdorf. Leocadio Martines, jr.
Tecolote	Lincoln	6,539	1			*****					0.44		0.20	0.0	5 2	12 20	15		8.	El Paso & Southwest. R. R.
lijeras Canyon	Otero	6, 214	i		*******	*****		*****	****		0.54	*******	0. 25	0.0	3	20 18	7 8	3	sw.	U. S. Forest Service. El Paso & Southwest. R. R.
Torrance	Taos.	. 8,076	5			86	0	32	27		1.00		0.50	0.0	3	18	9 27		sw.	Edwin B. Seward.
Pularosa	Rio Arriba Otero	. 4.436	1	74.3	*** ****	80 96	8	32 31 53	27† 29	37	0.21	*******	1.00 0.19	0.0	2 2 3	19	11	0	sw.	Irby L. Fairless. El Paso & Southwest. R. R. Dr. I. N. Woodman.
VaughnVirsylvia	Guadalupe	. 5,932			*******	00	91	*****			0.96	*****	0.82	0.0	3	10 28	20	0 .	8.	Dr. I. N. Woodman.

Table 1.—Climatological data for September, 1910. District No. 8—Continued

New Mexico—Cont'd. Winsors. Texas. Abilene . Albany . Anahuacj . Austin . Ballinger . Barstow . Bay City . Beaumont . Beeville . Big Springs .	Shackelford	Sevation, feet,	Length of record,	Mean.	Departure from	best.		-	-	t daily		re from	# H 2	snowfall nelted.	per of rainy	of r days.	of part-	of days.	wind	Observers.
Vinsors Tesas. Abilene Albany Anahusei tustin Sallinger Sarstow Say City Seaumont seeville Sig Springs	TaylorShackelford	8, 200	1		H .	High	Date.	Lowest	Date.	Greates	Total.	Departur the nor	Greatest	Total an	Number .01 inc	Number	Number of ly cloudy o	22	Prevailing	
bilene Libany Linahuacj Lustin Lillinger Larstow Lay City Leaumont Leeville Lig Springs	Shackelford		12	48.2		69	11	27	241	41	0.90	- 1.17	0.48	0.0	6	19	7	4	w.	Henry D. Winsor.
lbany	Shackelford	1.738	25	80.0	+ 5.8	99	4	56	27	30	1.64	- 1.50	1.36	0.0	7	16	10	4	8.	U. S. Weather Bureau.
ustin allinger arstow ay City eaumont eeville g Springs		1, 429		79.0	+ 4.8	102			27	40	3.07	+ 0.38	2.25	0.0	3	26	2	2		N. L. Bartholomew. B. H. Collins.
allinger	Travis	593	54	81.3	+ 2.8	95	21	67	201	23	1.18	- 2.56	0.86	0.0	7	14	11	5	sw.	A. Deussen.
ay Cityeaumonteville	Runnels	1,637	15	79.8	+ 4.5	101				35	2.02	- 1.22	1.20	0.0	5	18	8	4	8.	E. M. Eubank.
eaumont seville ig Springs	Ward		3	******							0.69	*******	0.46	0.0	8	11	8	11	8.	W. H. Denis. E. C. Quereau.
g Springs	Jefferson	29	13	81.2	******	95	11	65	191	29	1.69	- 1.24	0, 58	0.0	8	17	0	13	ne.	John Bender.
	Bee	225	14	81.8	+ 3.0	100		66 55	27	29 36	3.77 0.42	+ 0.99	0.70	0.0	10	12 14	12 13	6	e. 8.	L. E. Dickey. B. Reagan.
anco	Blanco	1,350	14	80.8	+ 3.8	100	21	60	231	35	0.46	- 2.67	0.36	0.0	2	10a	19*	0.	8.	R. C. Crist.
ooth	Fort Bend	1,412	18	79.0	+ 2.8	100	1†	57	201	41	1.43 0.62	- 1.51	0.66	0.0	5	23	18	7	8.	F. W. Schweppe. T. R. Booth.
oquillas	Brewster			85.7		105		65	16	29	0.07		0.03	0.0	3					J. O. Langford.
owie	Montague	1,113	16 21	83.4	+ 5.9	103		58 61	19	42	0.84	- 2.08 - 2.67	0.82	9.0	2	17	8	5	0.	Craig Anderson. Mrs. M. A. Stevens.
18808	Palo Pinto	801	1			*****			4 4 5 5 5	****	0.94		0.94	0.0	1	20	9	1	sw.	Robt. E. Boyett.
renham		350	21	82.4	+ 3.5	100	3†	65	131	28	1.68	- 1.52	0.57	0.0	8	20 19	6 7	1	80. 80.	Mrs. B. F. Sloan. Claude Strange.
righton	Nucces	12	14	82.0	+ 1.5	96	9	70	10	20	7.81	+ 4.79	6.83	0.0	4	13	11	6	se.	G. H. Ritter.
rownsville		1.342	21 20	80. 2 79. 8	+ 1.0 + 3.2	91 102	1† 2†	69 60	10 28	33	10.71 5.58	+ 5.00 + 2.75	8. 21 5. 28	0.0	5	21	8	1	e. s.	U. S. Weather Bureau. Mrs. Pearl Smith.
meron	Milam		2	84.6		103	3	66	19†	33	0.56		0.45	0.0	2	25	5	0	80.	Mrs. Pearl Smith. J. E. Watts.
armona	Polk	2 100	15	80.3		100	31	50 55	19 28	43 38	1.86 0.10	- 2.45	0.61	0.0	8	7 16	18	6	8.	M. S. Spitler. Wm. Lanius.
leman	Coleman	1,710	10	80.0	+ 4.9	100	21	63	201	30	4.48	+0.87	2.10	0.0	6	14	11	5	8.	J. E. Stevens.
ollege Station	Brazos	308	10	82.4 78.4	+ 3.6 + 7.5	100	1† 3†	31 56	19 29	34	1.50	- 1.82 - 1.47	0.83	0.0	6	20 16°	5°	5.	8.	Prof. G. S. Fraps R. M. Webb.
olorado Jumbia	Brasoria	. 34	21	76.8	+ 3.2	95	31	60	21	30	5. 16	- 0.14	1.40	0.0	11	18	8		8.	R. B. Loggins.
dumbus	Colorado	206	6	******		*****	****				2.30		0.66	0.0	7	20	10	0	ne.	Mrs. Sophie Bridge. E. F. Prosser.
mstockorpus Christi	Valverde Nueces		23	80.7	+ 1.7	91	9	70	9	21	6.09	+ 2.09	4.44	0.0	8	16	9	5	se.	U.S. Weather Bureau.
rsicana	Navarro	445	21	83.6	+ 6.0	102	2	65	171	32	0.55	- 2.24	0.39	0.0	3	28 17	13	0	8C.	E. L. Gibson. A. M. Rencher.
ockett	Houston	350	21	82.9 82.6	+ 3.5	101	9	61 64	19† 22†	37 36	0, 92 1, 66	- 2.29	0.48	0.0	5 9	19	7		8.	H. R. Frobese.
dlas	Dallas	406	21	82.4	+ 5.1	16.2	2	61	201	38		- 0.19	2.48	0.0	5	23 24	6		8.	G. A. Eisenlohr. H. P. Hermansen.
eatur	Wharton	1.047	14	81.1	+ 2.6	98	81	63	21†	30	2.25	- 1.60	0.95	0.0	9	24	0		80.	Fort Worth & Denver R
l Rio	Valverde	952	4	82.1	+ 3.2	98	5	66	28	29	0.72	- 2.22	0.59	0.0	5	16	10		se.	U.S. Weather Bureau.
vinefalville	Medina Cherokee	653 575	6	83. 9 82. 2		100	8	65 62	19	33	0.80		0.38	0.0	3	16 20	10		80.	M. A. Keller. J. M. B. Knight.
lley	Frio	569				*****			****		1.02		1.00	0.0	2	****				John W. Miller.
ublin	Travis		15 21	79.4 81.0	+ 2.9 + 1.6	100	9	60 65	27 25†	31 29		+ 0.69	2.78 0.78	0.0	6	18	13		8. 86.	Jno. O. Shafer. J. C. Edgar.
gle Pass	Maverick	800	21	87.6	+ 6.2	103	31	70	251	26	2.60	- 0.71	1.85	0.0	4	2	24	4 .		Jos. Metcalfe.
Paso	Jackson	3, 762	31	77.6	+ 4.9	97	3	59	29	30	4.68 0.24	- 1.21	1.90	0.0	3	19	9		e.	E. L. Faires. U. S. Weather Bureau.
cinal	La Salle	558	2	82.4		102	8	63	19	35	1.09		0.40	0.0	5	0	25	5	0.	H. C. Braden.
irland	BurnetStarr		22	83.4 80.4	*******	107	21	62	20 14	36 32	1.19	- 1.35	0.43	0.0	5 4	25 20	8		8. se.	R. L. Bush. W. A. Gardner.
tonia	Fayette	465	2	81.9		101	9	64	30	31	1.79		0.70	0.0	6	14	13	3	8.	Fred W. Laux.
ntfrt Clark	Smith Kinney	1.050	23	81.9 81.8	+ 2.5	102 98	3	56 66	19 15†	39 27	1.16	- 2.30	0.72	0.0	5	23	7 12		e. se.	F. C. C. Carter. Post Hospital.
rt McIntosh	Webb	. 400	24	85.4	+ 3.7	101	9	69	20	27	1.47	- 1.28	0.72	0.0	3	12	8	10	e.	Do H. H. Butz.
rt Stockton	Pecos. Tarrant	670	13	79.2 81.2	+ 6.7 + 4.5	104 97	3	57 61	16† 27	40 27		- 1.91 - 0.74	1.00	0.0	3 4	13 18	17 12		80. S.	U. S. Weather Bureau.
dericksburg	Gillespie	1,742	21	79.0	+ 3.3	95	21	62	201		2.20	- 0.82	1.09	0.0	3		10		8.	Arthur Striegler.
inesville	Galveston	738	40	82.1	+ 5.6 + 1.2	103 91	9	68	9	23	1.35	- 1.89 - 0.67	1. 49	0.0	11	15	12	3	50.	J. L. Hickson. U. S. Weather Bureau.
toaville	Coryell	. 795	6	82.0		98	9	64	201	32	0.50		0.40	0.0	2	23	7	0 .		John Ryan.
orgetown	Williamson		15	81.6	+ 4.0	103	9	62	20	25	1.09 2.98	- 2.00	0.76	0.0	5 9	21	12		8.	Prof. R. F. Young. J. M. Johnson.
aham	Young	. 1,040	11	83.2	+ 4.9	105	21	59	27	40	1.16	- 1.62	0, 85	0.0	4	26	15	2	8.	C. W. Johnson.
and Saline	Van Zandt Tarrant	670	20	82.1°	+ 4.2	101	3	61	26	30 .	0.76 3.05	******	0.38 3.05	0.0	1		12.		Be. 8.	F. E. Whittemore. W. J. Crowley.
een ville	Hunt	. 550	10	83.5	+ 5.2	102	2	64	28 22	34	0.80	- 2.61	0.80	0.0		21	9	0	8.	J. P. Regan.
dlettsville	Lavaca	. 235	19	81.8	+ 2.4	96	9	64	22	30	1.02	- 1.57	0, 35	0.0	4	15	12	W	8.	Dr. J. E. Lay. Christian Fritz.
skellbbronville	Haskell	. 4,013	19	83.0	+ 7.5	107	31	56	27	41	0.15	- 2.09	0. 15	0.0	1	19	9		8.	P. D. Sanders.
bbronville mpstead	Duval Waller	254	8	******		*****		*****			0, 65		2. 25 0. 25	0.0	3 .	ii	12		e.	Henry Edds. J. H. Hancock.
nderson	Rusk	. 500	1								1.08		0.41	0.0	5		10	2 .		M. Kangerga.
wittlaboro	McLennanHill	. 664	15 7	83.6	******	102	14	50	30		0.25		0, 21 1, 57	0.0	3 1		***	***	*****	I. H. Earle. Thompson & Campbell.
ndo	Medina	. 901	8	80.5	*******	98	11	60	12†	30	0.73		0.28	0.0	5		13	0 .	*****	Thompson & Campbell. H. E. Haass.
ustonntaville	Harris	. 138	21 22	80. 4 79. 8	+ 2.4 + 2.0	96 97	1	63 58	19		1.04	- 3.45	0.32	0.0	12	21 22	6		80. 80.	W. Y. Barr.
ton	Kent				T 2.0			98			0.00		0.00	0.0	0 .		***			U. S. Weather Bureau. W. Y. Barr. Wichita Valley Ry. Co. Earle Adkisson.
rett	Leon	. 496	6 7	83.8	******	105	11	60 58	171		1.04		0.40 1.00	0.0		14 19	5		s.	Earle Adkisson. Judge John S. Durst.
netion	Kimble	. 448	11	77.4 83.0	+ 4.2	101	2	62	141				0.40	0.0			10		8.	B. J. Hubbard.
ene	Johnson	. 940	15									******								Industrial Academy.
rrvilleickerbocker	Kerr Tom Green	. 1,650 . 2,050	6	81.7	+ 6.2	100	9	63 58	22 27		0.95 2.65		0.28 1.18	0.0		18			80.	Mrs. F. Coleman. Jos. Tweedy.
pperl	Bosque	. 576	13 .		******	****					3.80	1.01	3.80	0.0	1	17	10	3 1	8.	T. A. Johnson.
grange	Fayette Dawson			*****	******	****		****	****		0.73 1.09		0. 22	0.0	4 .		2	8 8		August Hermes. S. D. Austin.
mesa	Lampasas	. 1,026	19	81.8	+ 5.3	100	1	61	18	37	0.32	- 2.23	0.18	0.0	3		2	3 8	8.	Mrs. K. I. Webber.
mpasas			8 1.		******	*****					7.75	******	7.75	0.0	1 .					Jno. G. Kenedy.
mpasas	Cameron	38			****						7.89				6					Matt Cody.
mpasas	Nueces Liberty	20 38	11 6	79.6	******	96	2†	55	19	36	7.89 - 2.77 .	- 5. 19	5. 79 0. 93	0.0		21	7		ne.	Matt Cody. Mrs. Fannie Sneed.
mesa	Nueces	38 1,040	11 .	79.6 83.0 76.4	+ 4.5	96 101 96	2† 3 11†	64	19 20 16†	36 29	2.77 .	- 1.92	5.79	0.0	7	24	7 6 28	0	RD.	Matt Cody. Mrs. Fannie Sneed. E. W. Torrence. M. D. Wardlow.

Table 1.—Climatological data for September, 1910. District No. 8—Continued.

			F.	Tem	perature	, in de	grees	Fahr	enhe	it.	Pre	cipitatio	n, in in		days		Sky		lon.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy d	Number of	Number of part-	Number of cloudy days.	Prevailing wind directi	Observers.
Texas-Cont'd.	AngelinaCaldwell	325	3	80.2		99	11	52	19	41	1.93		0.43	0.0	7	20	6	4	я.	T. A. King
alingarathon	CaldwellBrewster	418		81.1 71.1	+ 4.3	99	3	66 55	20† 19†		1.96 1.33	- 0.96	1.15	0.0	7	14	15	10	8.	John Carter. Rev. A. P. Willis.
rble Falls	Rurnet	771	2								0.50		0.54	0.0	5 2	17	4	0	sw.	Wm. Harrison. R. K. Colquitt.
rshall	Harrison	375	i	80.5		98	21	53	19	40	0. 19		0. 15	0.0	3	3	27	0	ne.	Lee Scott.
rfa. rshall. tagorda	Matagorda			81.6		100	***	60	20	35	2.64		1.10	0.0	3 2 3	19	7 18	3	0.	W. E. McNahh
xiadland	Midland		3	01.0		100	14	90	20	99	3.35		2.50	0.0	3	15	15	0	80.	Miss Josephine Newm H. J. Elder.
seion	Hidalgo			******							8, 20		5. 65	0.0	7	13	17	0	80.	L. H. Romig.
nt Belvieu §	Chambers	00	****	******	******	*****	****	*****	* 4 * *	****	2.80 0.41	*******	0. 19	0.0	8	20	7	3	se.	A. R. Shearer. Lucius W. Gosselin.
Blanco	Crosby	2,750	22	76.4	+ 4.6 + 3.1	99	41	52	271	39	0.00	- 2.13	0.00	0.0	0	23	3	4	S.	H. C. Smith. Miss Mary Hofmann.
cogdoches	Nacogdoches Comal	271	11 21	79.4 78.9k	+ 3.1	97	5† 17†	51 63	19 23	39 29k	0.94 1.29	- 2.42	0.38 0.47k	0.0	54	134	5	3	n.	Miss Mary Hofmann. J. Giesecke.
lestine	Anderson	510	28	81.4		93 96	9	64	18	27	1.13	- 2.07	0.56	0.0	6	16	13	i	ne.	U.S. Weather Bureau.
nter	Hood	1,000	20		******			****	****	****	2.94	+ 0.38	2.61	0.0	4		****	****	*****	E. H. Snider. Earnest De Vilbias.
reall	Frio	102	4	78.3		98	8	55	19	34	4.38		1.06	0.0	8	5	19	6		R. B. Pointer.
inview	Hale	3,370	18	74.4		101	11	45	27	44	0.06	- 2.22	0.06	0.0	8 1 4	28	2	0	8.	J. F. Sander.
rt Lavaca	Calhoun	20	9	82.4		99	9	64	19†	29	2.27 0.38		1.28 0.38	0.0	1	16 25	12 5	0	80. 8.	J. H. Bickford. W. L. Dodd.
ardo	Nueces	57	1	81.0		9)	9	66	22	27"	6.98		4.41	0.0	8	17	10	3	90.	Lindsay Waters. Mrs. C. W. Higdon.
ersidebert Lee	Walker	169	11	80.0		100	4	58	27	36	2.07	- 0.52	0.95 2.05	0.0	3 5	22	7	2	B.	Mrs. C. W. Higdon.
kland	Tyler	1,850 136	6								3.27	0.00	1.42	0.0	5 4 2	19	8	3	8.	H. D. Pearce. D. W. Bellamy. W. F. M. Ross.
ssville	Atascosa	558 308	15	82.6		39	4	64	21†	28	0.91		0.76	0.0	2 2	6	23	1	80.	W. F. M. Ross. Reiffert & Frobese.
nge	Karnes Uvalde	964	6	82.6		103	9	61	23	35	1.70		0.52	0.0	8	2	16	12	50.	Jas. Johnson.
ado	Bell		****								0.08		0.08	0.0	1	15	10	5	8.	L. M. Crockett.
n Angelo	I om Green	1,847	19 25	80. 2 81. 5	+ 4.4	102 98	9	58 66	27 23	36 29	2. 19 0. 56	- 0.52 - 2.38	1.50 0.43	0.0	6	19	8	3	8. 80.	Sam Crowther. U. S. Weather Bureau.
n Augustine	BexarSan Augustine	360	1	79.6		99	1	49	19	42	2.89		1.67	0.0	5	16	9	- 5		F. A. Wilson.
n Juanito§	Hidalgo	598	17	81.0	+ 2.6	99 98	9	63	231	28	1.09	- 1.24	0.40	0.0	3	10	0	18	se. n.	J. B. McAllen. Miss L. C. Ford.
n Saba	HaysSan Şaba	1,712	6	80.9		99	21	60	21	34	0.95		0.52	0.0	6	22	7	0	8.	Jas. Burns.
nta Gertrudes	Nueces	1 330	8	80.7	*******	102	3	55	27	36		+ 2.55	2.00 0.08	0.0	2	24	5	1	8.	J. B. Wright, jr. F. M. Deaver.
gro	Yoakum																	***		F. N. Anderson. W. A. Dolan.
merville	Burleson	251 2,200	7	79.8 77.2k		99 100	15	62 59	24†	32 38k	0.11 4.07		0.06	0.0	6	34	30 13k	0 3k	8. e.k	W. A. Dolan. Mike Murphy.
noragarland	SuttonFort Bend	79	12	*****					40	99-	*****	*******								Cunningham Sugar Co
garland therland Springs§ ylor	Wilson		9	83.5		101	9	65	22 20	32	0.42	- 0.00	0.42	0.0	4	22	5	3 2	se.	W. A. Clark. U. S. Weather Bureau.
mple	WilliamsonBell	583 630	16	81.2 82.4	+ 4.3 + 5.3	98 98	11	65 68		33 23		- 1.02	1.02	0.0	4	24	5 7 3	3	S. S.	W. Goodrich Jones.
eodore	Winkler					*****					0.04		0.04	0.0	1					W. H. Gibbs.
urberden	Erath		4	83.9		107*	18	62	25	39		*******	0.60	0.0	1	6	18	6	80.	J. K. Ball. Wm. Kuykendall.
roli	Refugio		****								4.72		2.25	0.0	4 7	0	24	0		W. H. Gisler.
alde	Uvalde	937 289	10	82.4		102	9	63	17†	35	1.30	- 1.32	0.65	0.0	5	19	28	0 2	se.	F. M. Getzendaner. T. M. Williams.
toria	Robertson Victoria	187	12	82.3	+ 1.4	100	8	64	19	30	3. 97	-1.32 + 0.91	1.30	0.0	5	19	3	8	8.	C. C. Zirjacks.
co	McLennan	424 556 864	21 14	83.5	+ 1.4	100 101	10	65	20 17†	36	0.12	-2.47 -1.54 $+0.22$	0. 12 1. 46	0.0	1	23 27	1 2	6	8.	E. H. Hall. C. D. Longserre.
xahachieatherford	EllisParker	864	21	81.8 81.0	+ 4.6	100	21	60 59	28	30	2.66	+ 0.22	2.63	0.0	2 7	27	2	1	n.	Miss J. Stickfort.
arton	Wharton	105	8	79.6		97	9	57 60	19	32	1.97		0.51	0.0	7	22 19	1	7 7	n.	Miss J. Stickfort. Mrs. F. M. Hughs. W. W. Gibbard.
lls Point	Van Zandt	524 300	5	82. 2 82. 9		104	41	64		31	7. 25	*******	1.56 2.30	0.0	3 7	5	20	5	8.	F. H. Earnest.

TABLE 2.—Daily precipitation for September, 1910. District No. 8, Texas and Rio Grande Valley.

		1														Di	y o	mo	nth.												-			
Stations.	River basins.	1	1	2 2	3	4	5	6	7	8		10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
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llanca	Rio Grande										***			. 05	. 02			T.		T		. 19	T.											
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a Veta Pass	do												. 10									. 12						***						:
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aguache	do										***	***	T.	T.	.01	.02	. 11	1.		. 12	21	T.	. 70	10	* * * *	****	****		****					
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New Mexico.											***	***		****	****						r.	***	***		T.									-
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lamogordo (near)	do											***					T.		***	las .		T.									T.			
Immogordo						**														***							. 15							
neho	Rio Grande											****			4.	.00	***	××+	***	***	**	***	1.	I.		****	****	****			****			
rtesia Panch	Pecos											***			. 30	. 80	. 15											****		.09			****	
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louderoft	Pecos						** *				**			***		***	***		Ax .	***	**				***	***		****	****					1
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as Vegas	Pecos	.30	****		***	2			***			** 4.4			. 14	54	02 ,	31		T		** **	à .	.03				T.	. 12	. 03 .				0.
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ighn	Pecos	. 14													8	32													** **			** **		0. 9
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Table 2.—Daily precipitation for September, 1910. District No. 8—Continued.

															I	ay	of m	nont	h.													
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Texas-Cont'd.		1	1																													-
arstow.	Pecos. Colorado. Neches. Coast. Colorado. Guadalupe. San Antonio. Brasos. Rio Grande. Trinity.					. 46																						. 23				
ay City	Neches	**	00	3 .33	.31	. 10	.08	T.		T.	. 95	****	. 07	. 20	. 52	****	****		****		****				. 64	. 19				T.	. 24	
eeville	Coast	4	6	05			T.				. 83		. 18	.37	. 19	. 33						. 04							. 62		. 7)
ig Springs	Colorado	T.					. 20				T			. 13	.07	26											. 02	10	T.	T.		
oerne	San Antonio	** ***	* * * * *		****	****		****	****	. 34	1.	****	. 16	. 66	1.	. 30		****		****	****				1	****		T.		. 27		1:::
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rasos	do	** ***				m.		. 94					783	90	07				****													
razoria. razos . renham . ridgeport .	Trinity	** ***		. 02		1.	. 15	T.			. 28		1.	. 30	.07	.07	, 03			****	****			****		****	****	T.			.21	
righton	Coast									. 19				. 55	6.83	. 24														T.	T.	
rownsville	Rio Grande					. 31	5.03	95	T.		T.			.11	5. 18	3.96	. 23	. 22			. 03	. 67							T.		.06	
ameron	Brasos	T.						. 20			. 11	****	****	. 00	. 45		****					****			***					****		
armona	Neches	T.	. 61	T.		. 16	T.			.07		. 04	. 18	. 53	. 02								T.	T.				T.		. 25		
aytonvilleoleman	Brazos	** ****				2.10	. 10	****	****	****		****	.50	1.00	****				****	****			****	****	****		T.		. 33	.30		***
ollege Station	Brazos					. 05	T.			. 02			. 83	. 18	. 05													.37				
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olumbiaolumbus	Colorado	30	1.40	06	1.20	.,,,,	.06	****	****	. 12	. 26	. 10	. 42	.48	. 56	. 22				1.		****	****			****	****	1.	.02		. 66	
omstock	Rio Grande Coast									****				****														***			****	
orpus Christi	Coast		T.			. 15	T.		T.	. 37		T.	.08	. 64	4, 41	. 10													. 02	. 32		
orsicana	Trinitydo	**	T		T.	.04	. 12			. 29	.04		T.	T.				****				****	. 05			****	****	.06		.48		
uero	Guadalupe	00		.01			.00	. 36			. 15		. 16	. 30	. 11	. 45										****						
allas	Trinity	** ***					2.48			45			30	. 15	0.5				****						****				28		T.	***
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illey	Nueces	** ****		1.00	****	****	.00	****	****	1.	****		4.	.00				****		****		****	. 20					****			. 02	
ublin	Brasos						2.78	. 05		****				T.	. 38																	
uvalagle Pass	Colorado					T.				. 24	. 19		.48	.04	. 30	95	. 78				****			****	****	50	****		****	T.	****	***
ina	Lavaca	** ****	****	****		****		****		1.90	****		. 68	.40	. 00	1. 20						. 40		****		. 00	.70	****		****		
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irland	Nucces Colorado Coast Guadalupe Neches Rio Grandedo Pecos Trinity Colorado Trinity Coast Brasos	28			****		T			. 40			. 30	.06	17	.06	T		***			****			****	* 5 A X	****	****	43	****		
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ort McIntosh	do			****							.35				.72	.40	***															
ort Stockton	Pecos			T.				T.						T.	. 05	. 05			***							T.		T.	1.00	01	70	
ort Worth	Colorado	**		****		. 03	1. 23						T.	72				****	T	***	***	****		****			****	****	1.09	.01	. 39	
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ongales	Guadalupe	1. 12	. 13					.06			. 13			. 26	. 14	. 18													.72	. 24		
ahamand Saline	Sabine					. 85	. 15	.06	T	20				. 10 T		***	***		***	***	***	08								.08	T	***
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askellebbronville	Brazos					. 15																										
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W166	Dragos					. 21							. 00		. UII]		2000			200 0			0000				000		0000			
llsboro	do					1	1.57						10	20	90													T	T			
ondo	Nueces	01	. 39		T	. 05	.01		T.	. 29	. 01	.02	.02	. 07	. 14	.05											T.	. 05				
intsville	Trinity						***				. 89 .			. 48	. 72	F	44.10			× 14									200		***	
ytonwett	Brazos. Trinity.					. 12	40				95			17	T																	
nction	Colorado						. 30							. 55	. 20	. 20												. 70		1.00		
ufman	Trinity					T.	A.			. 90].		I.	. 10																	T.		
errville	Brazos										. 28			.12	.05	10	25			. 10										. 05		
aickerbocker	Colorado	. T.				1	97		- 1			- 1	T.	. 20	. 07					T							T.		. 18	. 23		
pperl	Brazos					3	. 80 .			xxil.			200	10	T			***	***		***		***	***		***	***	T	* * *		T.	
grange	Colorado	* * * * *	.09		.08		I.	***	***	. 10	. 20 .		***	.17	.08	***	***			***			***		***		***	**	.76			
	Brazos	. T.			. 00						T.			9.9	0.9	-	-			1				1	1	1	-	1	- 1	18		
Parra	Coastdo Trinity					0.0		***						7	. 75 .	90	* * *		***	***		***	***	***				40	***		25	
ureles Ranch	Trinity	* * * * * *	.47	T	.35	. 12	T.	. 10	T.	***	. 93	***	T.	T.	.30	T.	***	***	***				***	***			***		. 50		. 90	
no	Colorado Rio Grande												. 03	T.	.01			***				***		***					· Mag .			
no Grandell	Rio Grande		. 20																		***	X + x x	***	***	***							
ng Lake	Trinity						. 07	. 30						. 07										.00							. 18	
kin	Sabine Neches	43	. 20			. 39	T.			. 20			08										. 25							. 38		
IID FILE	tinadalupe																											. 25	. 15 .		. 03	
rathon	Rio Grande Colorado	*****			. 01		T.	***			14			.54	24	18					4					- 1			- 1	30		
rfa	Rio Grande															. 20 .												. 15	. 30			
rshall	Sabine	Acres				. 02												e e e la				.02				* × +	T.	. 15 .				
tagorda	Coast			T			T	T			T.		. 01	. 80 2	.08																: : :	
dland	Colorado				1	. 50								. 75															. 10 .			
ssion	Coast. Brazos. Colorado. Rio Grande Coast. Pecos			T.	. 08	T.	.09			92	. 60	Γ.		T. 5	. 65	. 88	r.			. 78		Γ.				* × + +		T.	53		. 12	***
ont Belvieu	Pecos	. T.	. 09	10	T	T		T		. 25 1	13	68	.06	T	.00	03												. 15	T.			
unt Blanco	Brazos													T.																***		243
	Neches	1		. 23	1		. 18				44			PRV I	700									90					15	11	T.	

TABLE 2.—Daily precipitation for September, 1910. District No. 8—Continued.

															I	ay	of n	ont	h.													
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Texas-Cont'd.		1	1					1	T																							
w Braunfels	Guadalupe																															
lesting	Trinity		T.			. 00	T.	1	1				T.	. 23									. 17					. 56		.06	.06	
nter	Brazos						1.30	1.31	1				. 20	.03																. 04		
reall	Nueces							1						1														23	06	. 0.		
ree	Colorado		9 06						94	- 45	91																	. 20	.97	****	0000	
inviow	Brazos.									* 400	. 00	****		1.00	~																0000	****
			T.		TP.	TE.																								****		
t Lavaca	Coast				A.	1.				. 09					1.20	. 33																
t City	Brasos					.00									: * : :	: *::	***														***	
ardo	Coast		. 10			T.	. 21								4. 41	1.21															.72	
eraide	Trinity										. 60			T.	. 95																	
ert Lee	Colorado						2, 00	. 13							. 14																	
kland	Neches		1.21									1. 42			. 49												14					
sville	Nueces												. 74		. 15													T.				
(PR)	San Antonio						1				.07		1		. 56													-				
nai	Nueces						1			04	10		40						****	37	****							04	13	59		
do	Brason																											.04	. 40			
Angelo	Colorado													. 20																47	0006	****
Antonio						000	1.00	. 11		04		70	1.	70	****		****	****			****				****		. 20	. 02	****	.16		
	San Antonio			1.22 *						.04	.02	T.	.00	1.	. 43		****		****	****					***		****	. 02		****		
Augustine	Neches		.35	T.	.05									. 28									. 48							T.		
Juanito	Coast															. 30						. 12										
Marcos	Guadalupe										. 65					. 45																
Saba	Colorado												. 26	. 52	. 04						. 05								.04		. 04	
a Gertrudes	Coast													. 90	2.00	1.50										1000					. 85	
nour	Brazos					T.	T.		1					.03													.08			T.		
	Colorado																															
	Brazos												an.															00				
ora	Rio Grande						1.87		****				.03	***	-		****						****		****			.00				****
	Brasos																												. 00	1.12	0000	****
										****																						***
	San Antonio					****	****	***		. 22	. 08				. 10																	
lor	Brasos									. 32	. 18		1.74	.01																		
ple	do						.06							. 47	. 05									***						1.02		
odore	Pecos													.04																		
	Brazos						1.01																									
on	Nueces									. 32			T.	.48	. 60													T.	T.			
	Guadalupe					30				2.25		94	26	.72	65												30					
	Nueces												T	. 13	14									4.7.0	****		. 00		65	14		
	Brazos														. 4.9	70													19			
	Guadalupe			****	****	. 65								****	- 20	. 64				****	****	***		***			****		. 14			
-90			****		****		COPY														. 02 .			***			****			m. 1		***
	Brazos													. 12																I.		
ahachie	Trinity																														T.	
	do													. 03	T.									***								
	Colorado		. 51			. 04								. 35	. 29	. 30														.04		
Point	Sabine	T.						T.		1.56																				. 10	. 40	
ata	Rio Grande	0.0						-	200	0.0			-	0.0	-		4.0		400			-									-	

BER, 1910. MONTHLY WEATHER REVIEW.

Table 3.—Maximum and minimum temperatures at selected stations, September, 1910. District No 8, Texas and Rio Grande Valley

- Green		Colo	rado.									New 1	Mexico											7	l'exas.			
		Garnett.		San Luis.		College.		Carlabad.		Fort Stanton.		Mountainair.		Rosedale.		Roswell.		Santa Fe.		Santa Rosa.		Abilene.		Big Springs.		Brownsville.		Corpus Christi.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max	. Min.	Max.	Min.	Max.	Min.	Max.	. M
	76 83 78 78 78	37 38 45 39 35	78 77 75 72 73	42 41 44 44 33	90 95 98 93 94	64 63 65 70 62	93 99 104 97 99	64 65 64 64 65	77 83 85 78 80	50 49 47 48 48	74 75 55 76 76	48 54 55 54 48	76 82 78 80 80	49 52 60 54 59	90 93 96 92 89	63 59 61 65 59	73 80 80 76 77	51 52 54 51 47	89 93 94 90 87	57 58 58 67 58	94 98 98 99 94	73 77 78 77 70	98 97 104 103 98	66 72 75 76 75	91 90 90 89 88	75 75 78 76 74	86 86 87 86 86	
	79 83 83 82 86	28 34 30 36 36	75 78 82 82 82 78	35 39 33 45 45	95 93 95 92 94	62 62 62 64 64	94 95 97 94 98	62 62 63 53 63	80 87 86 82 87	48 48 48 48 45	77 78 78 80 91	45 56 56 48 54	82 82 83 81 82	53 54 56 53 57	88 92 94 87 95	56 62 61 58 56	77 78 83 77 81	55 53 54 53 53	90 94 88 88 95	53 59 56 52 52	78 87 92 88 91	68 73 70 66 61	98 90 95 92 97	64 70 69 66 62	- 90 89 89 89 88	78 75 72 73 69	85 85 86 91 87	
	80 79 80 75 77	35 33 35 38 40	76 73 77 74 77	47 42 41 38 47	95 93 84 83 78	61 55 64 63 68	101 96 90 81 81	57 59 62 66 62	86 82 74 70 71	45 44 47 55 53	81 82 77 72 78	55 53 46 52 54	84 82 76 70 60	61 57 51 56 54	95 90 78 75 79	63 56 57 62 60	80 73 73 68 73	52 56 54 55 56	85 85 83 80 80	62 57 55 62 59	96 90 87 86 90	71 71 69 68 68	98 92 84 88 90	68 66 64 67 64	60 89 89 78 82	70 70 74 72 71	86 86 82 79 84	-
	75 78 80 80 80	40 41 42 48 44	73 77 82 75 77	39 39 39 40 45	74 83 89 90 91	61 61 50 50 60	87 91 89 90 94	60 64 65 59 32	75 79 78 85	47 45 46 45	77 65 79 85 90	48 52 50 51 48	62 67 74 76 77	52 52 50 54 52	82 75 88 87 90	57 62 60 54 54	70 71 75 74 79	48 51 52 52 52 53	82 84 88 90 93	53 57 54 54 53	92 94 95 95 96	69 71 70 69 71	94 98 97 96 101	68 64 64 62 65	86 87 86 85 89	73 74 70 70 70	86 88 84 86 86 83 85 85 86 85	
	79 78 74 70 73	46 38 32 30 33	76 77 74 74 73	40 45 30 34 34	93 93 94 94 89	57 69 56 55 69	92 96 97 98 95	64 61 60 58 58	86 84 82 86 81	48 49 48 42 40	85 86 88 86 84	54 49 48 40 50	75 79 79 79 79 73	52 52 56 52 53	92 92 88 86 90	55 64 63 56 54	75 75 74 75 75 74	54 51 43 45 47	94 91 86 90 89	57 58 57 51 50	94 93 92 92 93	70 71 68 66 71	94 95 97 97 97	67 70 65 67 70	86 87 86 85 89 86 85 90 88 87	71 70 70 72 72 74	83 85 85 86 86	
	76 78 74 78 76	32 39 28 30 32	76 76 77 76 76	33 31 30 32 31	90 88 87 88 90	64 56 60 53 48	86 85 82 85 97	58 59 59 55 54	78 78 76 80 85	48 45 42 39 39	82 77 82 71 78	49 43 44 38 40	76 74 70 77 79	51 47 46 47 56	75 79 83 83 90	56 54 53 52 49	73 73 71 74 75	49 46 47 45 47	79 85 84 88 90	52 49 46 51 54	90 84 88 84 90	62 56 63 62 64	90 90 92 85 97	68 55 64 60 62	89 80 89 89 91	74 72 71 72 72 72	86 88 86 85 86	
	78.1	36.2	76. 3	38.6	90. 3	61.1	92.8	60.9	80.7*	46.4*	79. 5	49.4	76.8	53.3	87.1	57.9	75.4	50.9	87.8	55.4	91.3	68.8	94.8	66.5	87.9	72.6	85.6	1
		-												Texas.														
	Del Bio		0			Fort McIntosh.		Fort Stockton.		FOR HOLES.		Galveston.		nallectaville.		Houston.	Loffete	No.	D-Total			Plainview.		San Anvenio.		Sey mour.		Taylor.
3	Max.	Min.	Max.	Min.	Max.	Min.	Max.		Max.	Min.	Max.		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.		Max.	Min.	Max.	M
	95 97 97 96 98	72 77 79 77 79	91 94 97 91 94	69 70 68 72 70	98 98 99 99 97	78 77 80 80 80	92 102 104 102 99	64 69 76 75 75	94 97 97 96 94	76 79 78 77 68	86 82 87 87 88	77 76 82 77 82	96 94 95 95 96	74 74 75 74 74	91 86 92 91 91	74 75 76 75 76	99 96 96 96 96	68 68 68 68	96 94 95 94 93	76 74 76 74 74	91 95 99 98 90	59 62 66 65 68	92 94 95 94 92	72 75 76 76 77	98 101 132 101 90	69 72 78 80 71	96 96 95 94 90	
	87 93 94 96 94	79 76 74 71 66	93 92 92 90 93	72 68 66 68 66	99 98 98 101 99	80 80 78 76 72	88 93 96 94 101	66 68 76 60 61	88 91 93 95 92	68 75 74 70 67	87 87 88 91 82	82 82 82 68 73	94 97 97 99 94	75 71 72 73 69	91 94 93 96 89	76 74 76 68 70	95 98 99 99 99	68 68 68 72 68	92 96 96 96 96 93	75 74 74 76 72	89 92 95 85 95	56 61 59 54 51	90 94 95 98 97	76 75 73 71 68	84 92 98 87 94	70 72 68 65 59	90 96 95 98 94	
	97 93 91 84 87	70 73 70 69 69	94 93 83 82 73	67 67 66 65 66	95 95 92 83 83	76 76 76 76 76 74	102 94 86 83 82	64 65 65 65 60	92 87 90 92 88	73 71 71 71 71 69	84 82 80 82 84	75 74 73 70 76	94 92 88 84 90	69 73 73 73 73 72	86 87 85 85 91	70 74 71 71 71 72	95 90 92 93 91	67 69 70 63 68	93 90 90 92 90	71 71 70 70 70	101 94 86 82 86	64 62 57 54 59	93 90 89 85 90	69 70 70 69 70	101 94 90 91 90	71 67 66 68 68	93 88 88 87 90	
	91 94 94 95 94	66 68 72 69	74 84 89 90 90	64 63 65 64 61	94 97 94 96 96	74 74 72 70 60	88 93 96 97 96	57 57 60 59 65	91 91 92 93 94	67 68 68 68 67	86 82 82 83 83	74 74 77 72 77	92 94 92 91 92	72 68 70 65 67	90 89 87 88 90	69 69 69 63 68	93 92 93 93 96	63 62 59 52 57	91 90 90 92 93	66 64 64 65 66	90 91 92 96 97	55 55 56 58 55	93 95 92 92 93	70 69 70 71 67	97 98 98 98 100	64 69 75 65 64	92 96 92 92 94	
	96 92 93 94 94	70 70 68 69 70	92 92 93 92 85	62 67 67 65 72	95 96 96 96 96	75 72 74 74 74	95 97 98 97 103	60 60 62 65 64	93 94 93 92 93	71 73 71 71 71 72	85 85 85 84 83	77 75 79 78 76	93 94 93 94 94	69 64 67 67 67	96 92 91 90 92	66 67 70 69 70	97 95 95 95 95	63 63 65 65	94 94 93 91 92	69 71 70 70 71	94 92 91 90 95	55 59 63 50 60	92 91 90 92 92	72 67 66 68 70	98 98 96 94 98	68 66 72 64 67	93 92 91 92 93	
	94 96 95 92 94	70 70 66 68 68	89 88 87 87 89	68 63 62 59 60	96 96 96 95 97	74 74 74 74 74	96 34 85 89 96	68 57 61 59 58	93 88 88 89 91	67 61 64 67 69	85 88 83 84 85	79 77 75 77 78	95 93 92 93 91	68 70 68 69 68	88 92 91 91 91	72 69 67 70 70	95 96 94 94 94	65 65 62 68 66	92 93 90 90 90	71 66 64 67 66	88 84 88 85 93	55 45 52 53 55	93 90 91 91 91	72 71 67 68 68	83 82 89 91 94	63 55 57 60 62	93 92 91 91 92	

Climatological Data for September, 1910. DISTRICT No. 9, COLORADO VALLEY,

FREDERICK H. BRANDENBURG, District Editor. Patrick McDonough, Acting District Editor.

GENERAL SUMMARY.

The month was characterized by notably high mean temperatures throughout the entire district, generally deficient precipitation, sunshine slightly in excess of the normal, and mean relative humidity somewhat less than the normal. The month was remarkably free from cool spells, and but few frosts occurred except at the higher stations in the northern and central portions of the district. The day temperatures were unusually high and the period of heat was protracted, but the nights in the northern and central portions were relatively cool, especially during the last decade of the month. In some portions of Arizona maximum temperatures of 100°, or higher, occurred daily during the greater part of the month. At Parker, Ariz., temperatures of 100°, or higher, occurred on 29 days; at Phoenix on 19 days, and at Yuma on 25 days. The highest temperatures were noted during the latter part of the first decade of the month, while the coldest weather was most common near the close of the month.

In Wyoming, New Mexico, and Arizona the rainfall was light and the distribution irregular. In Arizona the month was the driest of record, except that of 1898 and 1906. In Utah and Colorado the distribution was more regular, and rain fell with more frequency, but the monthly amounts were less than the normal, except in southern Utah, and over the watershed of the Grand River in Colorado and at stations on tributaries of the Green in Colorado.

Water for irrigation purposes was reported decidedly deficient in Arizona and in localities in western New Mexico. Drought prevailed in western New Mexico and the ranges were reported to be in bad condition in many localities.

TEMPERATURE.

The mean of the 131 stations reporting was 68.8°, or 2.9° above the normal. Except in a few unimportant localities, an excess was general, and it was unusually marked at several stations in the district. By subdivisions the means and departures were: Western Wyoming, 53.7°, +3.1°; western Colorado, 57.7°, +3.0°; eastern Utah, 63.9°, +3.7°; western New Mexico, 67.8°, +2.7°; Arizona, 77.7°, +2.8°; and southeastern Nevada, 73.7°. The highest monthly mean was 94.2° at Casa Grande, Ariz., and the lowest, 42.4°, at Corona, Colo.

For the subdivisions included in District No. 9, the extremes observed were: Western Wyoming, 88° and 13°; western Colorado, 94° and 12°; eastern Utah, 100° and 26°; western New Mexico, 100° and 26°; Arizona, 120° and 30°; and southeastern Nevada, 108° and 39°.

PRECIPITATION.

The average precipitation for the 176 stations reporting was 0.92 inch, or 0.35 inch below the normal. In western Wyoming, except at Battle Mountain, almost the entire monthly amounts fell on the 22d. Scattering showers fell in western Colorado between the 1st and 4th, and also between the 11th and 21st. In Utah there was light rain on the 2d and 3d, and scattering rains between the 13th and 19th, but at a few stations in the southern portion of the State the amounts were heavy. In New Mexico and Arizona there were no well-defined periods of rainfall during the month, while in southeastern Nevada nearly the entire monthly precipitation fell between the 13th and 15th. By watersheds the averages and departures were: Green, 1.28, -0.11; Grand, 1.49, +0.18; San Juan, 1.20, -0.80; Little Colorado, 0.50, -0.80; Gila, 0.47, -0.50; Mimbres, 0.39, -1.14; and Colorado, proper, 1.17, +0.59 inch. The greatest monthly amount was 4.70 inches at Cochise, Ariz., while at 2 stations in New Mexico, and 6 stations in Arizona no rain fell during the month. On an average there were 4 days with 0.01 inch or more of precipitation.

RIVERS.

Low stages prevailed throughout the month in all of the rivers. At Yuma, Ariz., the average height of the river was nearly 5 feet below that of the corresponding month in 1909.

MISCELLANEOUS.

Except at Durango, the sunshine was in excess of the normal. Grand Junction reported 87, Durango 80, Flagstaff 84, Phoenix 92, and Yuma 94 per cent of the possible.

The mean relative humidity ranged between 55 per cent at Flagstaff and 35 per cent at Phoenix. It was below the normal at all stations from which reports were received, except Yuma.

Table 1.—Climatological data for September, 1910. District No. 9, Colorado Valley.

			Ė	Tem	perature	, in d	legree	s Fal	hrenl	eit.	Pre	eipitatio	n, in t	nches.	lays,		Sky		tion.	
Stations.	. Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeited.	Number of rainy d	Number of	Number of part-	Number of cloudy days.	Prevailing wind	Observers.
Wyoming. Battle Mountain		7,300		55.94		79	1+	20	26	484			0.70	0.0					w.	U. S. Forest Service.
Daniel	. Uinta	6, 577	11 2	49.8 54.8	+ 3.1	80 84 88 79	91	13 19	261	56 54	0.60		0.60	0.0	3	12	18	8	nw.	J. M. Van Dervort. Eden Valley L. & I. Co.
reen River	do	. 6,083	5 4	57. 6 50. 6	1	88	17†	22	26 27	51	0.13	- 0.56	0.12	0.0	2 1	18	9	3	w.	Geo. W. Maxon. U. S. Forest Service.
tamble	Carbon	. 9, 232		30.0			141	20	26	54	0.40		0.40	0.0		10			nw.	J. C. Fothergill.
Villow Creek Cabin	Freemont	7,500	2		******						*****									J. L. Allen.
shcroft			8	51.7		78	8	24	27	46	2.20		0.49	0.0	15					Dan McArthur.
ed Rockreckenridge	Summit	9, 536	20	47.5	+ C.9	75	8	18	27	49	1.71	+ 0.32	0.71	T.	9		16	8	nw.	W. B. Weybright. Mrs. J. G. Thompson.
ascade	San Juan	8,900	4								1.82	1 0.00	0.56	0.0	9	23	2	5		San Juan P. & W. Co.
hromoochetopa	Saguache	9,088		56.0		89	20	21	27	60	0.68		0.25	0.0	4 7	17	11	8	SW.	Lawrence Nolan. Bessie McDonough.
olibran	Mesa	. 6,000	17	61.8		85	8	36	23	37	1.59	+ 0.18	0.57	0.0	9	20	8	2	sw.	A. A. Wood.
olumbineolumbine Ranch	Delta	. 6, 925		******	******			*****			1.19		0.32	0.0	8	14	13	6	sw.	Mrs. M. A. Caron. Geo. W. Wade.
oronarawford (near)	Grand	6,600	3	61.8		59 84	8	19 37	23	31	1.92		0.70	0.0	7 9	22	5	3	w.	U.S. Weather Bureau. C.W. Roe.
rested Butte	Gunnison	. 8,867		50.0		76		16		54	1.85	******	0.38	0.0	11	14	11	5	nw.	Charles L. Ross.
e Beque	Delta	4,965	19	66.0	+ 3.4	94	81	36	26	53	0.38	- 0.48	0. 15	0.0	4	27	3	0		C. M. Paine. E. M. Getts.
illon	Summit	. 8,800	1	51.6		74		28		46	1.51		0.80	1.0	5	16	9	5	nw.	Harry T. Hamilton
olores	La Plata	6,534		62.3	+ 3.0	86	8	36	27	44	0.33	- 1.51	0. 12	0.0	7	14	13	3	nw.	Geo. R. Simmons, jr. U. S. Weather Bureau.
agleureka	Eagle	6, 598	5	******	*****	****		*****			2, 13		0.48	0.0	11					J. M. Witteman. San Juan P. & W. Co.
raser	Grand	8,560		46.8	*******	75	8	12	27	52	1.93	*******	0.49	0.5	11	14	11	5	W.	L. D. C. Gaskill.
ruitaladstone §	San Juan	10,400	3	66. 7	+ 3.4	93	8†	26	27	48	1.13	- 0.03	0.60	0.0	10	19	28	1	ne.	J. B. Willsea. San Juan P. & W. Co.
lenwood Springs (near , .	Garfield	5,823	12	59.3		88	9	26	27	49	1.65	+ 0.73 + 0.02	0.75	0.0	4	20	10	0	W.	E. A. O'Neil.
rand Junction	Grand	8, 153	1 2 1	69.8	+ 3.5	92	10	46	26	34	0.92	+ 0.02	0.57	0.0	6	23 22	6	5	nw.	U. S. Weather Bureau. Mrs. Belle Kauffman.
rand Valley	Garfield	5, 089	18	64.9	+ 2.4	94	19	30	27	53	1.33	- 0.04	0.51	0.0	7	22	3 7	1		David Evans. Clarence Adams.
unnisonorsefly	Montrose	8,700	4.	53. 3*	+ 1.3	81	11	18	27	1	1.50		0.40	0.0	7	16	164	14	SW.	L. J. Finch.
ontonremmling (near)	Ouray	10,000	i								2.70		0.61	T.	15	12	18	0	sw.	P. H. Foley. H. A. Howe.
ake City	Hinedale	8,686	5	56.2		80	81	36	231		0.79		0.15	0.0	11	13	11	6	B.	J. F. Maurer.
Ay	Routt	8, 750	16	58.6	+ 2.3	87	8	19	26	52	2.01	+ 0.52	0.94	0.0	9	21	2	7	BW.	A. G. Wallihan. L. J. Wade.
ujane	Montrose	6, 620	4	65.2		88	8	38	5	37	0.70		0.30	0.0	6	17	12	1	SW.	U.S. Reclamation Servi
arhla	MontesumaGunnison	7.951	11	61.3 54.6	+ 4.0	84 79	81	34 25	26	42	0.74 3.26	- 0.79	0. 22	0.0	9	15 19	15	0 2	nw. ne.	B. M. Krumpanitzky. Homer Harrington.
arshall Pass	Saguache	10, 846	18	******						***	0.15		0.13	T.	7	18	11	1	W.	William D. Lillard. T. Baker.
ontrose (near)	Rio Blanco	5, 811	21	57.5	+ 1.9	83	81	26	27	47	1.95	+ 0.16	1.18	0.0		11	16	3	sw.	R. Butterfield.
astagoda	Pitkin	7.903	19	52.4 58.2	+ 3.1	75 84	19	26 24	27	41 52	1.65 1.77	+ 0.28	1.03 0.62	0.0	6 7	18 25	11 2	3	w.	Arthur Hanthorn. Shaw Brothers.
agosa Springs	Archuleta	7, 108 5, 694	3	57.8	7 0.1	86	14	21	27	58	0.41		0.18	0.0	5	16	14	0	SW.	E. T. Walker. J. M. Underwood.
aonia arshall	Grand		15	64.8	*******	86	8	42	61	36	1.21	- 0.05	0.50	0.0	5	17	13	0	SW.	F. A. Field.
tkinangely	Gunnison	9,500	11								1.03		0.31	0.0	7	22	8	0		Mrs. Maggie Cammann. Mrs. C. P. Hill.
edeliff	Eagle	8, 695	15	64.6	+ 6.8	91	27	30	27	52		- 0.64 + 1.00	0.26	0.0	6	13 14	15	10	w.	Dorothea Greiner.
ico ifle		8,824 5,437	8	65, 0h	******	9)	18	32	27	50h	2.07	******	1.00	0.0	7	17 18h	6 3h	7 1h	sw.	Clinton B. Smith. Horace Mann.
ver Portal	Montrose	6,570	8	62.3	*******	91	7	32	26	49	1.12		0.42	0.0	8	17	4 7	9		U.S. Reclamation Service W.F. Irving.
ioshone	Gunnison	6, 110		53.8 62.5		78 87	8† 18	24 40	27	47	1.51 2.38		0.41	0.0	13 12	17 15	7 9	6	w.	Central Colo. Power Co
lverton (1)	San Juan	9, 285	8	51.8		81	30	22	30	59	1.91		0.52	0.0	13	15	9	6	8.	A. P. Root, jr. San Juan P. & W. Co.
oruce Lodge	Grand	9,600	2 7	46.2	*******	67	81	20	6	44	2.51 1.93		0.86	0.0	12	13	17	0	sw.	H. J. Wills.
eamboat Springs	Routt	6, 683 7, 300	3	54. 8 60. 0		84 83	8	15 38	27 26†	59 42	1.85		0.56 0.47	0.0	4	25 17	3	2 2	6.	M. E. Houston. San Juan P. & W. Co.
erminal Dam	do	8,300	3					90	201	*2	1.09		0.36	0.0	10	17	9	4	8.	Do. A. F. Terrill.
errill's Ranch	Mesa	7,000 8,400				*****			****		1.11		0.45	0.0	7 3	20 16	10		SW.	Martin Esser.
hitepine	Gunnison	9,500	10									*******								C. E. Macy. Percy A. Hughes.
umpa(near)	Routt	8,000	1	******	******		****	*****		***	1.71	*** ****	0.38	0.0	10	11	15	4	W.	rercy A. Hugues.
sin	San Juan	7,500	1		******		****	*****								***	* * * 4			Maude A. Palmer.
stle Dale	Grand	9,500	11	63.21	+ 5.0	90	81	35	71	52 1	1.05	+ 0.23	0.35	0.0	7	111	131	0 (E. H. Wolf. James Jeffs.
khorn	Unita	6, 657						90		40		*******			3	10		14		Forest Supervisor.
calante	Garfield	6, 260 5, 700	10 10	56. 8 62. 8	+ 1.3 + 2.2	83 88	10	38	16† 22† 27	46	1.44	+0.66 + 0.65	0.65 0.54	0.0	4 8	16 21	0	9	sw.	Forest Supervisor. H. C. Wickman, Geo. H. Barney.
rt Duchesne	Uinta Wasatch	5,000	22	64.0 55.8	+ 3.4	94 84	10 8†	30 26	27	56 47	0.64	- 0.57	0. 25 0. 66	0.0	8 10	23	11		s. sw.	Post Surgeon. J. Peter Naab. Joseph A. Lyman. B. F. Miller. F. J. Weber.
avson	San Juan	5,750	6					*****				*******								Joseph A. Lyman.
een River	Emery	4,060	13	70.2	+ 5.2	99	10	39	27	49	0.84	+ 0.09	0.30	0.0	6	21	9	0	sw.	B. F. Miller. F. J. Weber.
teSal	Garfield	3,000	11	76.9	+ 4.6	100	9	51	27†	41	0.22	- 0.50	0.12	0.0	4	20	9	1		John P. Hite.
a	San Juan Wayne	7,000	10	61.74	+ 4.0	82ª	19	36d	5	344	0.82	- 0.55	0.33	0.0	5	116	146	36		Chas. L. Glassmire. Michael Hansen.
inila	Unita					07	0	*****	0.0	40	1.05	0.00	0.40	0.0	5	15	12	3	****	Daniel M. Nelson.
	Grand	4,000	21 2	70.2	+ 4.4	97		38	27	49	0.84	- 0.26	0.43	0.0	5	13	13	4	******	Henry Crouse. D. B. Perkins.
ice	Kane	5, 557	1 .		******	*****		*****	****		3.78		1.05	0.0	10					F. A. Porter. H. C. Smith.
nen	Kane	6,700	9	57.8	*******	82	9	34	30	44	3.76		0.98	0.0	7	21	2	7	w.	J. W. Seaman.
	Washington	2,880 7,625	29 .	*****	******			****	****		*****	******		*****		****				Joseph T. Atkin. O. E. Jorgensen.
ofield	Washington		3 5	74.0		96	3†	51	12	41	2.60		0.65	0.0	8	18	3	9		Hattie Flanigan.
asdale	Carbon Wayne	5, 280 7, 000	5 .	00 0	******	81	0	38	5	38	1. 29 1. 42	*******	0.35	0.0	8 6 7	15	1	14		Henry Cullum. Josiah Shurts.
heodore	Wasatch	5, 507	5	59.4		90	91	28	26	56	1.57		0.51	0.0	8	14	9	7		M. M. Smith.

TABLE 1 .- Climatological data for September, 1910. District No. 9-Continued.

			yrs.	Temp	erature,	in de	grees	Fahr	renhe	eit.	Prec	cipitation	, in in	ches.	days,	-	Sky.		tion.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind	Observers.
Utah-Cont'd. Tropic Trout Creek Ranger	Garfield Unita	9, 200	13	62.0	+ 4.6	89	9	37	8	50	3.47 1.77	******	0.80 0.40	0.0	9	15 8	13 15	2 7	sw.	E. P. Bolton. Forest Supervisor.
Vernal	do	5,050	15	62.6	+ 2.5	91	81	28	27	48	0. 82	- 0.46	0, 50	0.0	4	24	5	1		S. P. Trim.
Alma	Socorro	5, 500	14	71.4	+ 4.1	99 87	9 8t	39 28	30	50	1.20 0.35	- 0.75	0.50	0.0	4 2	17 12	13 17	0	se. sw.	M. A. Balke. John R. Milligan.
Blackrock	McKibley	0,000	3 2 15	65.2 67.8	+ 3.1	89 95	81	35 34	30 23	515	0,02	*******	0.02	0.0		11	19	0	W.	Wm. J. Oliver. Fred Le Clerc.
Cambray	Luna	4, 215	11		******	98	2	*****	30		0.03	- 1.35	0.02	0.0	2	19 21	9	9	w.	Southern Pacific Co.
Columbus		4, 333	33	76.2	*******	97	31	54 52	231		0.80	- 0.57	0.28	0.0	1 7	4	17	9	se. W.	El Paso & Southwest. R.R. Southern Pacific Co.
Dulce Fort Bayard	Rio Arriba	6, 767	3.	69, 64	+ 3.6 + 3.1	88 89	31	26 50	28		0.25	- 1.41 - 1.57	0.00	0.0	1	16 23	5	5 2	W.	G. H. Blakeslee. U. S. Gen'l. Hospital.
Fort Wingate	McKinley	6, 997	46	63.8	+ 0.9	92 94	8	38	30 26	43	0.80	- 1.57	0.30	0.0	6 2	15	10 11	5	sw.	Medical Corps, U. S. A. Cyril James Collyer.
FruitlandGago		4 486	3	72.4	+ 3.5	100	4	40	18	50	0.05	- 0.30 - 1.05 - 1.06	0.05	0.0	1	20	10	0	w.	Southern Pacific Co.
Gila (near)	Grant	4, 470	11	71.1	+ 0.3	99	11	36 52	30	56	0.87	- 1.06	0.58	0.0	3	****	****	****		T. J. Clark, sr. U. S. Forest Service.
Hachita	do	4,504	1	******				*****			0.61	******	0,42	0,0	3 2	18	9	3	e. nw.	El Paso & Southwest. R. R Dr. John Roger Haynes.
Haynes	Luna	4, 451	1	******		*****					0.00		0.00	0.0	0	24	6	0	e.	El Paso & Southwest, R. R.
Lordsburg	Socorro	7, 300	10	77.3 59.6	+ 2.7	98	9	27	30	50	T. 0.30	- 0.95	T. 0. 10	0.0	5	11 7	19 23	0	sw.	Southern Pacific Co. C. B. Martin.
Mimbros	Grant	5,007	5								0.74		0.35	0.0	4	21 16	7	2 0	se. sw.	Chas. Dennis. El Paso & Southwest. R. R
Pratt Putnam	San Iuan	6.200										*******								Miss Elenor L. Quick.
Dadsook	firent.	4- LOG	1									*******	0.00	0.0	0	17 26	13 4	0		Robert H. Woods. ElPaso & Southwest, R. R.
Rodeo	Rio Arriba	6,000	5			*****		*****	****						***				*****	B. A. Candelario.
Arizona. Alliares Ranch	Cochise	4, 184	14								1.79	+ 0.71	1.30	0.0	4	17	8	5	w.	Thos. Allaire.
Arizona Canal Dam	Maricopa Yuma	1,372	17	86. 6 89. 7	$^{+3.3}_{+2.1}$	110 114	9	63	28	44	0.00	-0.63 +0.04	0.00	0.0	0 2	11 22	17 2	6	8. W.	U. S. Reclamation Service. Southern Pacific Co.
Benson	Cochise	3, 523	30 20	76.4 70.9	$\frac{-0.5}{+0.6}$	98 87	71	51 56	30	42		- 0.11	0.76	0.0	8	13 22	17 5	0	e. e.	Southern Pacific Co. Rev. J. G. Pritchard.
BiabeeBonita	Graham	4, 916				*****			201	40		******								A. Johnson & Co.
Bowie Buckeye	Maricopa	3,756	34 19	75.1 85.0	+ 1.5	97 113	9	50 53	23	50	0.15	- 1.02 - 0.50	0.15	0.0	1	17 27	3	8	SW.	Southern Pacific Co. H. E. Kell.
Camp Verde	Yavapa	3, 160	1						***		1.44		0. 63	0.0	6	2	27	· i	80.	H. E. Kell. T. R. Gabbard. R. A. Rodgers.
Canille	Pinal	1, 396	29	94.2	+ 8.3	113	29	70	51		0.50		0.50	0.0	1	20	8	2	sw.	Southern Pacific Co.
Cave Creek	Marieopa	6,090	3 2	81.6 68.2	*******	109	14	52 38	30	49 54	0.23		0.23	0.0	1 3	23	7 15	6	sw.	E. A. Howard Fr. L. Ostermann, O. F. M.
Chin Lee	Graham	8,000	3 20	59.6 83.8	******	76 102	9 8t	40 65	29 30	30	0.09	_ 1.49	0.03	0.0	5	22 28	8 2	0		H. R. Chlarson. P. Reisinger.
Clifton	Gila	2,300	11	80.7	+ 4.9	104	9 7	49	3	47	0.00	- 1.42 - 0.87 + 3.48	0.00	0.0	0	13	17	0	sw.	W. M. Clanton.
Cochise	Yavapai	1,900	12 10	72.2 87.2	$\frac{-0.9}{+5.6}$	97 111	8	50 66	23		4.70 0.20	- 0.20	1. 92 0. 20	0.0	1	19 21	7 6	3	s. se.	Southern Pacific Co. M. J. Nolan.
Congress	do	3,688	14	81.4	+ 2.0	100	81	63	30	30	0.01	- 0.60	0.01	0.0	1	15	15 16	0	sw.	Congress Mine. El Paso & Southwest. R. R.
Dog Caberos	do	5, 250	7	70.8	*******	100	6	44	291		0.32		0.32	0.0	1	14	15	1	e.	N. Erickson.
Douglas Dudleyville	Pinal	2,204		76.0	*******	101	8	90	30	51	0.85	*******	0.45	0.0	4	20	9	1	sw.	Dr. F. T. Wright. G. F. Cook.
Fairbank	Cochise	3,802	18	50.0	+ 1.8	83	9	30	23	46	0.75 0.81	- 0.60	0.44	0.0	6	14 19	12	4 2	sw.	El Paso & Southwest, R. R. U. S. Weather Bureau.
Florence	Pinal	1,504	11 39	80.7 68.6	- 0.1	110	8	53	25†	51 45	T. 0.25	- 0.80	T. 0, 20	0.0	0	18 25	12	0	w.	Pacific & Eastern R. R.
Fort Apache	Navajo Cochise	8 100	25 37	71.4	$^{+\ 2.8}_{+\ 0.6}$	95 96	22	53 39 47 58	29 17	44	0.02	- 0.80 - 1.31 - 1.89	0.02	0.0	2	25	5	0	se. w.	Post Surgeon, U. S. A. Post Surgeon, U. S. A.
Fort Mohave	Mohave	737	20	88.4 87.2	+ 3.5 + 1.7	117 112	15	58 62	29	45	0.05 T.	- 0.08 - 0.24	0.05 T.	0.0	0	27 22	2 3	5	8.	A. F. Duclos. Southern Pacific Co.
Globe	Gila	3, 525	9 7	61.3		86	5†	31	28	46	0.97	******	0, 62	0.0		15	14		sw.	Dr. B. G. Fox. Grand Canyon Ry.
Grand Canyon Greer	Coconino	9, 200	6		*******						0.71		0.23	0.0	5 7 5	20	6	4		Mrs. M. Butler.
Hereford	Cochise	4, 180	20	70.4	+ 2.8	100	9	37	29	51	1.46	- 0.68	0.96	0.0	1	11 29	0	19	9.	El Paso & Southwest. R. R. T. Larson.
Intake	Gila	2, 230	13	76.2	+ 3.3	94	94	58	29	27	0.00	- 0.88	0.00	0.0	0	22 22	8 8	0	W.	A. J. Robinson. Dr. L. A. Hawkins.
Jerome Keams Canyon	Navajo	6,600	7	65.6		87	81	39	30	40	1.23		0.52	0.0	5	10	19	1	se.	L. R. Ballard.
Kingman	Mohave Cochise	3, 326	9	76.6		107	9	44	29	49	1.11 0.85	******	1.06 0.61	0.0	5	22	8	0	sw.	J. R. Gooding. El Paso & Southwest. R. R.
Maricopa	Pinal	1, 186	33 16	88.6 84.1	+ 3.5 + 2.5	117 107	9 71	54 60	29 13	53 39	0.43	- 0.05 - 0.41 - 0.14	0.43	0.0	1	25 23	3 7	2	sw.	Southern Pacific Co. C. L. Diehl.
Mesa Mohawk Summit	Yuma	538	10	84.6	- 3.3	110	1	50	30	50	0.06	- 0.14	0.06	0.0	i	29 19	0	1		Southern Pacific Co.
Naco Natural Bridge	Cochise	4, 579	21					*****			1.62 0.40	- 1.46	1.50	0.0	1 2 1	19 25	10	1 0	w. sw.	El Paso & Southwest. R. R. D. G. Goodfellow.
Nogales	Santa Crus	3, 830	18																	Wallace & Summerhayes. W. H. Winters.
Oracle	Cochise	4, 676	1 3	******	*******	*****		*****		****	0.30	*******	0.15	0.0	4	14	12	4	w.	El Paso & Southwest. R. R.
Paradise Parker	do	3,940	13	68.9 88.3	+ 4.6	91 120	7 9	44	29 29	62	0.80	- 0.03	0.50	0.0	2 2	6 28	19	5 2	sw.	J. C. Hancock. Dr. H. V. King. M. McDonald.
Payson Phoenix (1)	Gila Maricopa	5,500	15	69. 2 86. 2	+ 4.8	93 108	9	40 62	28†		0.31		0.31 T.	0.0	1 0	19 25	9	2	e.	M. McDonald. U. S. Weather Bureau.
Pinal Ranch	Pinal	4, 520	16	******	1 40				40		0.50	- 1.01 - 1.28	0.50	0.0	1	22 17	7	1	sw.	Irion & Craig.
Pinto	Yavapai	5, 600	42	67.4	+ 2.7	94	10	40	231		T. 0. 13	- 0.92	T. 0.13	0.0	0	27	13	0	sw.	Mrs. C. F. Henning. Dr. J. W. Flinn.
Quartesite	Yuma Pinal	800	3	87.7 88.4		114 108	9 81	60	27† 29†	44	0.05		0.05	0.0	1	24	3 5 22	1 0	W. W.	W. E. Scott. W. J. Crowell.
Redrock	Gila	2, 175	6	85.4		109	9	62 61 55	30	41	0.03		0.03	0.0	1	26	3 5	1		W. A. Schoenfeld. E. W. Hudson.
Saint Johns	Pinal	5, 650	3 9	85.8		111 94	9 9	55 40	30 29†		0.00	*******	0.00 0.57	0.0	0 2	25 12	11	7	sw.	A. Shreeve.
Saint Michaels	do	6,950	23	64.0 78.0	+ 5.5	90	9	34	23† 27†	48	0.67	- 0.87	0. 22 0. 11	0.0	6 3	15 24	3	12	sw.	Rev. A. Weber, O. F. M. Mrs. M. B. Swartz.
San Carlos	Gila	2,456	29	80.4	+ 3.4 + 5.8	105	10	40 34 49 46 65 38	30	52	T.	- 0.98	T.	0.0	0	23	5 7	0	sw.	F. S. Thomas.
San Simon	Cochise	3, 609	25	82.6 69.7	+ 5.8	104 95	8 9	65 38	30 22†	33 48	0.26	- 0.60	0. 16 0. 23	0.0	3 1	20 21	10 8	0	W.	Southern Pacific Co. C. W. Dougherty.
Sentinel	Maricopa Navajo	685	12	89.9	+ 3.7	114	9	64	27	43	0.25	+ 0.04	0.25	0.0	1	20	10	40		Southern Pacific Co. Miss Zora Hall.

E 1 -Climatological data for September 1910 District No. 9-Contin

			E	Tem	perature	in de	gree	Fahr	enhe	it.	Prec	ipitation	, in h	nches.	day		Sky	7.	etion	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of	Number of part-	Number of	Prevailing wind	Observers.
Arisons—Cont'd. Silverbell	Coconino. Maricopa. Graham. Cochise. Mohave. Coconino. Pimado Yavapai Maricopa. Cochise. Coconino.	2,800 4,550 4,197 4,500 2,390 3,421 3,649 2,072 4,164 6,750	5 1 6 7 16 1 11 31 12 20 11 30 11 7	85. 2 66. 5 84. 4 76. 3 74. 8 69. 6 82. 0 80. 9 81. 9 73. 8 63. 8	+ 2.1 + 1.8 + 1.6 + 7.1 + 5.4 - 0.1 + 3.3	102 93 113 100 95 99 95 103 101 101 96	10 8 17 8† 7† 9 8† 10 20† 8† 10	70 35 55 43 52 48 44 54 54 51 48 31	14† 23 28† 30 15 29 24† 29† 21† 29 29† 26	25 51 48 51 34 45 45 46 46 46 47 43 50	0.04 0.16 0.30 T. T. 0.00 1.58	- 0.73 - 0.30 - 0.56 - 0.56 - 0.68 - 0.55 + 0.63 - 0.46	0. 71 0. 06 T. 0. 52 0. 08 0. 17 T. T. 0. 00 0. 77 0. 42	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	2 1 0 0 4 1 3 2 0 0 0 3 5	28	1 13 2 11 9 8 12 26 13 6 7 6 10	3 13 0 0 1 0 5 0 0 1 1 4 19 0	w. sw. ne. ne. w. xw.	Imperial Copper Co. W. J. Flake. C. E. Coe. F. H. Simmons. Prof. J. H. Larson. F. N. Walcott. S. M. Atkinson. G. H. Kraus. University of Arizona. Southern Pacific Co. J. O. Carter. Santa Fe, Presc't & Phoenx Southern Pacific Co. E. J. Nordyke. J. F. Bauer.
Yarnell Yuma	Yavapai	4,700 141 4,407 2,033	12 31 2 3	67. 6 74. 8	+ 1.4	112 96 108 108	9 11 9† 10	56 43 39 51	26 5 28 22†	47 45 60 47	1. 22 0. 12 0. 95	+ 1.00	0.05 1.22 0.05 0.75 0.48	0. 0 0. 0 0. 0 0. 0 0. 0	1 1 3 2 4	26 29 24 17 17	3 1 6 9 8	0 4 5	w. sw. ne. w.	E. L. Bartholomew. U. S. Weather Bureau. Agent Salt Lake Route. Salt Lake Route. Ray. M. Filcher.

Table 2.—Daily precipitation for September, 1910. District No. 9, Colorado Valley.

															D	ay o	f mo	onth.														
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Wyoming.	On the	1					T	1	T				-					-					-					T	1			
attle Mountain danieldenroen River	Snakedo		9 . 10		T.	1::	1						1.	T.	T.	T.	T.	1.	. **			. 10	. 60	T.								
den	. Green		-		T.								1000	. 02	T.	· · · ·	. 01		793			T.	. 33									
reen River	dodo		. T.	1000)									T.	T.	1.	T.	.01	T.	4444			. 12			****						
ambler	Snake																															
illow Creek Cabin Colorado,													1																			
beroft	Grand		00	3 .2	1 .40	1.1	2					. 25	. 18	. 19		. 22	.01	. 13	. 03	.08	. 18	. 05	. 03			T.						
ed Rock	Dolores																															
reckenridge	San Juan		00	- 36	6 .01		2		1			.00	.01	. 51	.24	T.		. 03	. 10	. 10	23	17	.02									
romo	San Juandodo	1	3	2	5							T.	T.		. 15	T.				T.	. 15	T.										
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dores	Dolores																															
rangogle	San Juan Grand			. 12										.01						. 05	1.	1.										
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nwood Springs (nr)	San Juan			. 78		1						T.	T.	. 20			. 22				T.	T.		T.								
nd Junction	do	T	T.	. 57	T.					****	T.	T.	T	. 03	T.	T.		T.	T.													
nd Valley	do		T.	.04	.38	.0	3				****	. 18	. 14	. 51		T.	T.	. 40	T.		.03			. 30	. 10							
	Gunnison		. 06	. 20								. 14						.06				. 15								****		
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e City	Gunnison	07	. 11	. 15	.04	T.						.03	700	. 15	, 02	.06	. 01	T.	T.	T.	. 13	.02	T.		T							
	Yampa	00	.00	. 04	. 31							1.	1.	.42					. 00		.03	1.	.00	.01	1.	1.						
ABO	Grand		. 02	.30	.00								. 03	. 27					T.			.02										
1008	San Juan	12	T.	.20	00							08	. 20	42			****	T.	00		T.	. 22	****			T.	***		X 5 X 5		***	4 4 5 5
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ker ntrose (near)	White	. T.			1.18				- 2.0 0					. 23		. 05	.11	. 28	. 10		T.	T.	***								****	
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oda	Gunnison Grand Yampa San Juan Gunnison			. 62	. 12								T.	.50	. 11			. 10	. 12	***	. 20						****			****		
osa Springs	San Juan		T.	. 16								· · · ·	T.	99	.02		T.	T.	.01	. 18	T.	T.	.04									
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dn	Gunnison	19	.31	. 05									.03		. 19						.08	. 08										
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D	Grand											. 07	.04	. 60			.02			.05												
inero (near)	do	00	.02	.41	16					* * * *	.01	T.	14	. 10		.04	.02	10	20	.01	T.	23	T		* * * *	01		****	****			
shone	Grand	. T.	.06	. 30	.88	. 21					****	. 13	.02	.40			. 14 .			.09	.02	. 12	.01									****
erton (peer)	San Juan	29	.06	. 49								.03	.00	. 52	T.	. 13	. 12	. 01	T.	T.	.08	10	08	.02	T.				. 05	. 02		
ice Lodge	Grand		.01	. 10	.74	***			***			.48	.06	. 19	.02	. 13	. 05	. 07	.02	.05	14	. 10	. 00			****					* * * * *	****
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minal Dam.	Dolores Grand Gunnison do Grand San Juan do Grand Yampa San Juan do Grand	26	10	06									. 43	. 41		14	04			20	. 47	.40	11								* * * *	
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ompahgre Plateau.				T.	. 52							. 32									. 17											
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TABLE 2.—Daily precipitation for September, 1910. District No. 9—Continued.

				-	-De		pre	- · p		Ju j	en k	e pa	ont	, ,	-					0-	CO1	un	ued	•	-								-
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TABLE 2 .- Daily precipitation for September, 1910. District No. 9-Continued.

Stations.	River basins.	1													I	ay	of n	ont	h.													
otations.	Itiver basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
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Nevada.	Colorado			.00											. 04	.05				****	****											
Vegas	do													. 75	. 20																	

Table 3.—Maximum and minimum temperatures at selected stations, September, 1910. District No. 9, Colorado Valley.

									orado.										ah.						MON	Mexico	<i>y</i> .
	Daniel.				Durango.		tion.		Gunnison.		Meeker.		Springs.		Emery.				Hite.		Mosb.	St. George (Ex-	periment sta- tion).				Fort Wingate.
Max.	Min.	Max.	Min.	Max	Min.	Max	Min	Max.	Min.	Max	Min.	Max.	Min.	Max	Min.	Max.	Min.	Max.	Min.	Max	. Min.	Max.	Min.	Max.	Min	. Max	. Mi
73 72 68 53 69	35 35 34 27 22	80 82 76 68 75	47 43 41 46 28	77 81 76 75 77	46 49 50 43 42	88 88 76 79 74	60 60 54 52 48	77 78 69 60 74	33 46 40 44 30	80 81 71 69 68	41 41 50 45 31	78 77 57 67 68	29 37 48 45 27	81 83 80 81 82	40 42 43 40 43	86 90 78 80 77	48 51 57 44 34	95 88 88 90 88	64 63 61 60 59	92 87 84 86 82	55 49 58 51 46			84 88 49 17 89	55 52 54 50 56	80 82 79 77 80	41 51 41 51 42
72 73 72 80 68	18 33 27 24 22	82 84 77 88 83	30 51 37 40 37	80 82 86 86 86 83	37 43 42 45 48	83 90 90 91 91 92	50 58 62 57 58	79	47	76 79 83 81 83	34 40 38 37 39	78 80 84 83 82	24 32 32 31 30	80 81 76 79 75	40 42 40 42 40	89 90 93 92 94	33 42 43 41 42	94 95 98 100 99	58 60 60 57 53	91 92 95 97 94	42 53 50 47 53	*****	*****	89	55 50 50 51 54	81 82 92 83 81	4 5 4 5 5
55 70 69 75 78	37 30 40 42 35	70 78 73 82 82	39 37 43 45 46	80 79 78 75 75	50 46 54 53 56	92 90 72 83 84	61 66 60 56 62	81 78 74 76 72	24 32 34 39 39	75 78 67 76 78	58 47 50 39 47	76 79 68 78 79	46 50 48 38 37	78 75 80 81 79	41 39 35 36 35	91 87 74 79 89	52 47 56 52 58	98 96 89 92 92	72 74 67 67 65	95 95 92 87 90	63 67 62 54 62	*****		*****	53 56 52 60 57	86 84 80 76 76	56 56 51 51
65 72 73 78 76	37 35 33 33 36	78 74 70 81 81	43 39 40 38 44	75 79 85 85 79	54 57 51 49 52	83 83 88 87 81	67 63 62 62 64	74 79 79 79	39 40 41 37	77 75 81 80 72	53 47 45 47 48	77 73 80 83 74	48 47 40 38 41	76 78 76 75 72	30 30 35 31 45	77 86 88 85 85	59 49 52 51 48	90 94 95 98 94	67 66 65 65 67	83 89 91 93 89	62 54 55 54 55	*****	*****		56 55 56 54 56	74 81 83 81 74	5 4 4 5 4
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68 69 72 67 65	13 20 21 30 29	71 75 80 74 77	22 24 30 45 32	77 78 78 76 76	38 36 37 42 39	76 80 84 82 82	46 46 50 51 49	70 70 75 72 72	32 18 22 22 22 21	68 72 75 75 75 75	25 26 28 33 30	68 74 77 76 76	20 15 20 29 22	68 65 62 63 64	42 42 40 41 36	75 77 84 84 80	32 30 34 38 35	90 92 90 90 91	50 51 53 52 51	84 87 89 88 88	42 38 41 43 41			- 82 83 84 85 85	52 51 52 51 51 52	75 72 77 74 78	56 46 41 44 38
39. 2	30.3	76.9	38.2	78.9	45.7	83.4	56.3	73.6	33.0	74.9	40. 1	74.9	24.6	74.5	39.1	83.6	44.5	92.7	61.1	89.0	51.3			85. 5h	53.6	78.9	48
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1	Date.				Dispee.		riagream.				Grand Canyon.	9			r noenix.	December			5				I ucroii.	Vience			Logan, Nev.
				Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min
				82 82 74 78 78	61 62 60 57 58	77 78 73 74 77	44 45 54 43 38	88 90 84 85 88	54 51 58 57 52	82 84 84 82 86	46 46 42 40 42	113 110 108 109 106	80 82 75 65 67	104 103 99 98 101	71 76 77 73 69	84 87 81 80 85	52 58 58 50 48	79 83 78 80 81	49 44 45 50 50	101 103 95 98 101	65 63 79 71 58	100 98 94 94 94	68 70 73 68 65	109 106 101 102 104	75 76 72 64 65	104 103 97 95 99	65 68 62 56 63
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			*****	76 79 83 82 84	59 58 62 62 61	74 77 80 79 76	48 43 43 48 46	77 86 88 88 88	64 48 57 55 51	80 80 82 84 84	40 40 42 42 42 42	107 111 107 106 110	81 78 78 72 63	99 102 103 98 101	76 77 77 74 77	85 82 88 85 83	60 53 56 53 56	73 79 85 83 77	56 46 45 45 45	87 96 102 99 102	73 64 64 70 66	95 98 101 97 98	75 71 70 71 68	103 106 102 102 105	72 74 76 76 72	97 100 100 91 100	68 67 66 74 68
	******			84 83 84 77	63 62 60 60	75 75 75 73	34 39 35 40	88 87 85 85 84	51 50 42 44 47	84 80 80 78	42 40 39 38	108 108 104 104	60 55 70 68 65	101 100 101 102 97	68 64 69 72	86 85 84 84 82	51 42 40 46 43	79 80 80 79 79	44 42 34 50 50	101 100 100 99 97	65 60 50 53 63	99 99 99 100 95	70 65 59 61 66	103 105 103 101 101	66 60 63 70 70	99 98 96 96 95	53 51 54 52 52
*****	******	******		79 81 82 82 83	56 57 56 58 58	73 73 73 72 78	37 35 31 32 32	83 83 84 84 85	44 43 42 39 43	78 76 76 78 80	38 36 31 32 36	104 105 104 104 104	62 65 49 42 62	98 97 100 97 101	66 66 62 64 63	83 83 83 80 84	45 56 50 40 41	80 81 79 78 82	55 39 41 37 34	97 97 98 97 98	58 54 51 47 46	96 97 98 99 100	62 62 55 54 54	97 101 100 103 96	56 59 60 58 64	99 98 96 97 96	54 54 51 52 52
	73 72 68 53 69 72 73 77 80 68 68 65 77 78 61 68 69 77 68 69 77 68 69 79 69 69 72 73 78 69 69 72 73 74 75 75 75 75 75 75 75 75 75 75 75 75 75	73	Max. Min. Max.	Max. Min. Max. Min. 73 35 80 47 72 35 82 43 68 34 76 41 53 27 68 46 69 22 75 28 72 18 82 30 73 33 84 51 72 27 77 37 80 24 88 40 68 22 83 37 70 39 78 37 69 40 73 43 75 42 82 45 78 35 82 46 65 37 78 43 772 35 74 39 78 33 81 38 72 35 74 39 78 33 81 38 70 40 73 78 33 81 38 70 40 73 78 33 81 38 70 25 74 72 35 74 72 35 74 73 33 81 74 39 75 30 82 43 61 39 71 38 61 39 71 38 61 39 71 38 61 39 71 38 65 65 37 78 66 32 66 37 78 33 81 81 81 77 78 33 81 81 81 82 65 37 78 33 81 81 82 66 37 78 33 81 81 83 70 85 81 81 84 85 81 81 85 81 85 81 86 81 81 88 87 81 88 88	## A	## A	### A ST	### A ST	Max. Min. Max. Min.	Max. Min. Min.	Max. Min. Min. Max. Min. Min.	Table Tabl	Max. Min. Max. Min.	Max. Min. Max. Min.				Max. Min. Max. Min.	## A. Win. Max. Min. Max.	## Act Min. Max. Min.	## A	## A Mis. Max. Mis. Mis. Mis. Mis. Mis. Mis. Mis. Mis	Gas. Mis. Mas. Mis.	The color The	Sec. Min. Max. Min.	Secondary Seco	Second S

Climatological Data for September, 1910. DISTRICT No. 10, GREAT BASIN.

ALFRED H. THIESSEN, District Editor.

GENERAL CLIMATOLOGICAL CONDITIONS.

The weather during the month was unusually warm and moist, and favorable for fall-sown grain and winter pasturage. Harvesting of grain and fruit was earlier than usual, as a rule, owing to the early start last spring, and the rapid growth attained during an unusually warm summer. This applies more generally to irrigated regions; but in the dry-farming sections successful crops were obtained only where the most approved culture methods were followed. In the more elevated portions of the district leaves turned to yellow and red during the second decade, and were falling fast at the end of the month; but on the lower levels trees remained green until the end of the month.

TEMPERATURE.

The mean temperature for September was 61.4°, being about 2.5° above normal. In the Utah area it was the highest in 10 years, but in the Nevada area the temperature averaged only 1.0° above normal. The mean temperature ranged from 49.8° at Christmas Lake, in southeastern Oregon, to 80.4° at Jean, in southern Nevada. The highest mean temperatures occurred in the valleys of Utah and in the southern and western portions of Nevada; and the lowest means in the more elevated portions of Utah, and in the Oregon area. The greatest plus departures occurred in the Sevier watershed of Utah, and the greatest minus departures in central Nevada.

The month began warm in all portions of the district, but grew gradually colder until the 5th when low temperatures occurred everywhere, and many stations in the Utah, Nevada, and Oregon areas reported their lowest for the month on this date. After the 5th the weather grew gradually warmer, and the 8th, 9th, and 10th were, as a rule, the warmest days of the month. The temperature for the remainder of the month was quite equable, but grew cooler until the 26th and 27th, on which dates the lowest temperatures for the month were registered at some stations.

The highest temperature for the district was 106° on the 9th at Jean, Nev.; the next highest was 99° at McAfees Ranch on the 4th and subsequent dates. Other high temperatures were 97° on the 8th at Corinne, 96° on the 9th at Provo, and 95° on the 10th at Lucin and Mount Nebo, all in Utah.

Most of the stations in the district reported minimum temperatures below freezing. The lowest temperature for the month was 12° on the 26th at Woodruff, Utah, and the next lowest, 13° on the same date at Cokeville, Wyo.

PRECIPITATION.

The precipitation for the district, as a whole, averaged 1.02 inch, which is 0.42 inch above normal. Good amounts fell everywhere, and in Nevada and Utah many stations reported double their normal amounts. The heaviest amounts fell in the southern portion of the Utah and Nevada areas, where the greatest excesses also occurred. A very few places in north-western Utah, and northeastern Nevada reported amounts less than normal.

The greatest monthly amount was 2.99 inches at Scipio, and the next greatest was 2.91 inches at Moroni, both in Utah. The largest 24-hour amount, 1.14 inch, was reported from Palmetto, Nev.

A few showers occurred from the 2d to the 4th at stations in the Wyoming, Idaho, Utah, and Nevada areas; but practically all the precipitation occurred from the 13th to the 20th. No snow was measured, but during the last few days of the rain period just mentioned, a covering of snow extended half way down the mountain sides in many parts of Utah.

MISCELLANEOUS.

Sunshine during the month was reported as abundant. At Salt Lake City, Utah, 72 per cent of the possible amount was recorded.

There were on the average, 4 rainy, 18 clear, 6 partly cloudy, and 6 cloudy days.

The highest wind reported was 48 miles an hour from the southwest on the 12th at Modena, Utah.

NOTE.

The only project in Utah undertaken by the Reclamation Service is at Strawberry Valley.

This project, as a whole, is now $42\frac{1}{2}$ per cent completed, and the tunnel 31 per cent. The driving of the tunnel has been continued with 3 shifts, and 439 lineal feet were excavated during the month. The heading is perfectly dry at the face, the material being a hard, blue limestone. A crushing and mixing plant has been completed and the work of placing concrete in the tunnel commenced. The engineering party in Strawberry Valley has completed the investigations at the Strawberry Dam and Indian Creek Dam sites and has completed the work of taking additional topographic observations on the reservoir site.

During the month approximately 3 inches of rain fell, which improved conditions to the extent of allowing plowing to be done without first irrigating the land. The fruit crop on the project is good and the price of all farm produce will be somewhat higher than it was last year.

TABLE 1.—Climatological data for September, 1910. District No. 10, Great Basin.

			y.	Tem	perature	in de	green	Fah	renh	eit.	Pre	cipitatio	n, in ir		day.		Sky		etion.	
Stations.	Counties.	Elevation, feet.	Length of record.	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy .01 inch or mor	Number of	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind	Observers,
Wyoming.	. Uinta	6,085	7	54.3	+ 2.6	86	0	14	26	59	0, 66	- 0.33	0.40	0.0		18	7	5	w.	S. W. Condron.
okeville	do	. 6. 204	0	53.6 54.6		82 81	9	13 25	26	55 48	0.74		. 0.22	0.0	7	24 22	4	2	w.	E. J. Tuckett.
Idaho.	do	1	10	34. 0	+ 1.6	01		20	2.	90	0.53	- 0.20			4		.7	1	w.	Frank Tucker.
race	Bannock	. 5, 400	4	60.6		88	0	24	28	56	1.36	*******	0.40	0.0	7	27 14	6	10	8.	F. W. Boehme. Cyril B. Dickson.
xford	do	4,750	16	55.4	T 0 4	84	9	18		51					4	16	5	9	w.	Edwin Smith.
aristone	Oneida	4, 520	10		+ 0.4						0.89	0.00		0.0						John Norton. Thos. W. Roe.
eston	do			60.0	+ 2.0	86	9	25	26	56	1.24	+ 0.52	0.73	0.0	5	20	4	6	sw.	Wm. Chatterton.
lpine	Utah	. 4,900	13		******			****			0.76	- 0.52	0.24	0.0	5	15	10	5	*****	George Stevens.
nnabellaeaver	Beaver	. 6,000	5 7	63.2	*******	83	91	41			1.77		0.55	0.0	7	18	8	4	sw.	J. W. Fairbanks. James Connell.
lack Rock	Millard	. 4,872	10	64.0		93	9	33	30			+ 0.04	0.54	0.0	3	19	6	5	*****	W. D. Livingston. Forest Supervisor.
ard Canyon	do		1	******	*******			*****				*******						****	*****	Do. David Moore.
astle Rock	Summit	5,750	5					*****												Parley Dalley.
orinne	Boxelder	4, 240	16	66.6	+ 1.3	97	8	32 36		55 46	0.75	+ 0.00	0.38	0.0	7	16 21	5 2	9 7		Parley Dalley. A. C. Murphy. S. W. Western.
eseret	Washington	4, 270	2	64.8	+ 4.6	92	****	*****			2.19		0.95	0.0					8.	John Day. Charles Boylin.
armington	Davis	6, 244 5, 750 4, 240 4, 541 4, 270 4, 267 5, 100	10 20	63.0 68.2	+ 3.3 + 6.7	88 96	28	34		45	0.91	-0.33 + 1.51	0.65 0.85	0.0	3 5	17	8	5	nw.	Charles Boylin. J. J. Starley.
riese Summit	Wasatch			******							*****						****	****	*****	Victor A. Friese.
riscoarland	Boxelder		16	65. 2 61. 8	- 2.9	87 88	10	42 33	5	33	1.25	+ 6.56	0.76	0.0	5	13	11	6	s.	E. R. Smyth. Harry B. Shaw.
arrison overnment Creek	Millard		7	64.8	+ 2.7	89 95	10†	35 36	5	44	1.52 0.62		0.50	0.0	5 7 4	13 26	9 8	8 2	8.	Harry B. Shaw. E. M. Smith. Walter James
rantaville	do		1	64.0	+ 2.1	99		30		30	0.02	- 0.34		0.0		20				Allen J. Fraser.
rouse Creekeber	Boxelder		17	58.6	+ 3.4	90	10	24	26	55	1.37	+ 0.23	0.92	0.0	5 7	18	8	5	SW.	Philip Paskett. John Crook.
enefer	Summit	. 0, 301	11	57.8	+ 3.2	87	81	20	26	61	0.73	- 0.41	0.48	0.0	5	16	6	8	W.	Wm. Brewer.
apah (near)ex	Tooele	. 7,500	5	58.6	*******	86	9†	31	5	47	1.45	*******	0.46	0.0	5	18	10	2	n.	J. S. Lawton. John J. Watson. I. S & R. Co.
ternational	Togele	. 5,370	1	67.4		88	7†	45	26	24	0. 26		0. 12	0.0	3	21	6	3	90.	I. S & R. Co.
sepa anosh	Millard	. 5, 250	2	70.4	*******	114	11	38	51	59	G. 60 2. 19	*******	0.30	0.0	7	19			8.	James Mackie. Geo. Crane. F. W. Klock.
elton	Boxelder	. 4.230	32 20	60, 2 62, 8	- 0.9	86 90	10	32 36	7 5	50 41	0.17 2.28	- 0.24 + 1.02	0.10	0.0	9	16 18	13	6	5W.	F. W. Klock. Wm. Brown.
gan	Cache	4.507	19	62.6	+ 2.7 + 1.2	88	9	35	25	38	0.55	- 0.52	0.33	0.0	2					Utah Exp. Station.
ncinanti			16	62.0 57.4	- 2.7	95 77	10	30 35	26 26	52 28	0.20 2.19	+ 1.05	0.20	0.0	7	12	4	14		C. J. Burke. J. M. Anderson.
arion	Summit	. 6,750	6					****												Jas. Woolstenhulme.
arysvaleeadowville	Piute	6,200	11	61. 4 56. 5	+ 4.0 + 2.6	87 83	9	34 22	28	46 50	2.38 0.45	+ 1.07	0.75	6.0	10 2	18 23	0	8 7	S. W.	John W. Henry. J. S. Moffat.
lford	Beaver	. 4,962	6								0.76		0.39	0.0	3	16	11			J. C. Manuel. Fred Yeates.
illvilleinersville	CacheBeaver	. 5,070	15			******	****	******			1.48	-0.26 + 0.93	0.45	0.0	6				8.	Geo. Roberts, sr.
odenaorgan	Iron	. 5,479 4,280	10	63. 2	+ 2.0	88	9	3)	27	44	1.68	+ 1.18	0.81	0.0	7	21	4	5	w.	U. S. Weather Bureau. W. Visick.
oroni	Sanpete	. 5, 519	2	63. 1	*******	87	9	35	5	39	2.91	*******	0.93	0.0	9	16	7	7	w.	B. F. Eliason.
ount Neboephi (near)	Juab	6,059	9 7	69.0		95	10	38	5	40	1.05	*******	0.38	0.0	6	22	4		S.	D. C. Walkey. S. Boswell.
ak City	Millard	4,900	6					*****		90	0.10	******							nw.	Peter Nielson.
den Inguitch Lake	Weber	. 9,000	1	63.9		87	11	42	26	35	0.18 2.40	*******	0.10	0.0	5	21° 3°		60	nw.	Enoch Farr. Jas. E. Prince.
rk City	Summit	. 7,800	13 19	58.8 62.9	$+4.5 \\ +2.8$	84 88	9	27 41	30	51 41	0.54	-0.32 + 1.19	0.51 1.00	0.0	8	17 19	0			Irvin Evans. S. M. Matheson.
yson	Utah	4, 637	7								1.40		0.34	0.0	7	12	12	6	sw.	D. L. Coombs.
ntoomontory	Washington Boxelder	5,907 4,913	13	58.5	+ 2.4	89	7	31	27†	54*	1.36	- 0.02 - 0.20	0.48	0.0	5	19	7	4	8.	J. H. Harrison. F. C. Houghton.
ovo	Utah	4,532	18	67.2	+ 6.7	96	9	37	27	51	1.38	+ 0.80	0.40	0.0	5	8	21			James A. Oliver.
ndolph	Rich Sevier Salt Lake	6,442	20					*****			0.50		0.23	0.0	5	24	6		sw.	William Rex. Joseph J. Jensen.
tair	Salt Lake	4, 220	7 37	66.8 67.8	+ 2.7	85 90	6	44	27	22° 32		- 0 11	0. 19	0.0	6	19	7		se.	E. J. Bench. U. S. Weather Bureau.
piovier Mine	Millard	5, 200	15	61.9	+ 2.5	89	St	28	5 5	50	2.99	-0.11 + 1.99	0.87	0.0	7	13	6	11	sw.	Thos. Memmott
vier Mine	SevierJuab	6, 127	****					****			2.02	*******	0.42	0.0	6 7	13	10° 15		sw.	Max Krotki. J. L. Stark.
ver City anish Fork Canyon	Utah	4, 585	1	64.4		92	71	31	5	47	1.06		0.26	9.0	7	22	2	6 .		U.S. Reclamation Service
awberry Valley	do	5 075	18	56.8 60.3	+ 1.6	84 94	10	27 26	5	59	2.66 1.71	+ 0.44	0.92	0.0		15	9		w.	Do. J. Thorgeirson.
oele	Tooele	4,900	14	64.4	+ 0.8	89	8	37	26	44	0.72	- 0.15	0.37	0.0	4	9	7		n.	E. A. Bonelli.
ah Lake Pumping Sta.	Utah Rich		12	53.8	+ 2.2	85	17	12	26	58		*******		*****		14	13	3	sw.	W. A. Knight. J. Sidney Pusey.
Orecon	Harney	4, 157	20	56.9	+ 3.0	87	1	28	4	52	0.83	+ 0.02	0.50	0.0	4	24	6	0		J. C. Welcome, ir.
ristmas Lake	Lake	4,320	2	49.8	T 0.0	82	5	14	71	61	0.90		0.37	0.0	6	10	11	9	nw.	John C. Green.
sley	Harney	4,500	6	56.5		82	51	31	11		0.76	*******	0.40	0.0	-	203	60	1	sw.	E. C. Woodward. J. P. Jefferson.
ver Lake	Lake	4,300	14	******																Wm. Holder.
California.	Eldorado	6, 235																		A. R. Sprague. R. W. Porteous.
Tahoe	Placer	6,850		54.8		80	3†	34	16†	43	0.80		0.55	0.0	2	27	0		w.	R. W. Porteous. Robert M. Watson.
hoeuckee	Nevada	5, 819	39	55.4	- 0.5	85	28	30	23+			- 0.26		0.0		24	6		sw.	Southern Pacific Co.
Nevada.	Esmeralda	1																		J. I. Cain.
atin.	Lander	6,594	21				20		80	40	0.00	1 0 00	0.00			99				J. I. Cain. James L. Pelton. Southern Pacific Co.
owawe.	Eureka	4.905	39	61. 4 59. 2	- 1.1 - 4.0	94 86	7	30	28	60 48	0.39 1.00	+ 0.13 + 0.79	0. 22 0. 52	0.0	3 2	25	2 2		w. w	Do. Pacific Co.
riin	Elko	5, 232	39	58.2	+ 0.1	86 94 88 87	8	32 21 33 33	25 13	68 45 47	0.07	- 0.04	0.03	0.0	3 3	23 25 26 23 18	0	4 .		Do. U. S. Reclamation Service
rson Dam. erry Creek	White Pine	6.450	3 2		******	87	9	33	13	47		*******	0. 26 0. 30	0.0	3 5	18	5 8		W. W.	J. H. Leishman.
ver Valley			10	1																I. F. Wiseman.

TABLE 1.—Climatological data for September, 1910. District No. 10—Continued.

			ya.	Temp	erature,	in de	gree	Fahr	renhe	rit.	Prec	pitation	n, in ir	ches.	lays.		Sky		tion.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy of 101 inch or more	Number of	Number of part-	Number of cloudy days.	Prevailing wind	Observers.
Nesada—Cont'd. Columbia	Elko. do White Pine. Eureka. Churchill. Lion. Douglas Lincoln. Douglas. Humboldt Elko. Clark. Churchill. Washoe.	5, 100 5, 342 6, 421 6, 500 3, 965 4, 200 4, 830 4, 697 5, 631 2, 074 4, 020 5, 500	3 2 2 3 9 1 9 7 7 5 2 1 0 6 1 3 1 1 7 2 3 3 2 2 2 7	65.8 54.5 55.9 54.9 61.3 60.6 64.8 57.6 64.4 60.7 57.4 80.4 63.8 5J.8	+ 0.9 + 9.3 + 1.4 + 0.3 + 1.8 + 3.7 + 0.9 + 1.4	92 85 90 89 90 88 88 88 81 90 85 106 92 87	10 9 9 19 9 6† 2 4† 3 5 8 9	45 20 20 29 35 32 36 32 30 34 25 60 34 32	21† 5 11 10 5 13 13 1† 28 28 28† 36 13 13	41 63 82 45 46 49 44 53 36 50 58 31 50 43	0. 55 0. 75 0. 67 0. 40 0. 47	- 0.02 + 0.25 + 0.54 + 0.25 + 0.04 + 0.38 + 0.45 + 0.32	0, 92 0, 18 0, 08 0, 56 0, 42 0, 28 0, 21 0, 30 0, 30 0, 35 0, 40 0, 36 0, 55	6.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	35334422	22 20 18 21 19 23 19 20 19 28 24 26 23 21	5 6 5 7 4 2 2 5 6 0 1 0 6 6 7	3 4 7 2 7 5 6 4	Se. SW. D. SW. W. C. SW. SW.	A. Booth. Golconda Cattle Co. Southern Pacific Co. G. C. Hunting. Clay Simms. U. S. Experiment Farm. Mrs. A. J. Rankin. Wm. Dangberg. Mrs. J. F. Wambolt. C. C. Henningsen. Southern Pacific Co. Salt Lake Route. U. S. Reclamation Service. Ross Lewers. J. S. Case.
McAfees Ranch Millett Millett Mina Palmetto Potts Quinn River Ranch Reno Soda Lake Tecoma Tonopah Wabuska Wils Winnemucca	Esmeralda	4, 835 4, 600 6, 780 6, 990 4, 850 4, 532 4, 534 4, 812 6, 090 4, 347	6 2 3 20 17 8 39 3 32 3 7 38 31	59, 7 55, 7 62, 2 54, 4 58, 3° 61, 5 63, 0 57, 2 65, 2 58, 4 63, 1	+ 4.0 - 1.3 + 1.8 + 3.2 + 5.0 + 0.7	99 90 92 89 83 85 88 88 92 88 88 88 82 88	4† 8 6† 10 9 6† 9 10 26 19	44 33 40 35 23 27 35 36 23 49 32 30 34	1 5† 19† 4 5 11 13 13 26 13 29 30 9	50 57 48 51 55 55 43 43 53 28 52 42 54	1, 25 0, 54 0, 28 0, 36 0, 30 6, 94	+ 2.46	1. 04 0. 96 0. 00 1. 14 1. 10 0. 45 0. 25 0. 25 0. 26 0. 87	C. 0 0. 0 0. 0 0. 0 0. 0 0. 0 0. 0 0. 0	1 3 0 2 2 2 3 3 2 2 2 2 3	14 21 18 22 15 25 19 15 23 13 18 20	4 3 6 4 3 9 9 5 0 2 6	17 10	n. s. w. nw. s. w. nw. se. se. w.	C. H. Rodenkirch. Fred J. Jones. Southern Pacific Co. A. J. Akin. Miss Mamie Potts. F. M. Payne. U. S. Weather Bureau. U. S. Reclamation Service Southern Pacific Co. U. S. Weather Bureau. Vic Bernard. Southern Pacific Co. U. S. Weather Bureau.

*, b, *, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

* Precipitation included in that of the next measurement.

* Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

* Also on other dates.

* Separate dates of falls not recorded.

* Data are from standard instruments not supplied by the U. S. Weather Bureau.

* Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

* Precipitation for the 24 hours ending on the morning when it is measured

* Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—Daily precipitation for September, 1910. District No. 10, Great Basin.

															1	Day	of n	ont	h.														
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Wyoming		T	1																								T	T	T				
lorder	Bear			T.	.01			T.					***	19	. 08	T.	. 40	T	.05 T.	. 12	****	.05	T						1				0.6
okevillevanston	do										****				.16	T.	. 15		. 17	. 05													0.5
Idaho.	1															12	40		.32														0.8
				. 05										. 01	T.		. 43	. 31	.32	. 45		. 03											1.3
race	do				80											14	10	18							***								0.8
tone	Deep Creek																		. 16	***													
Veston	Bear														. 18	. 73		. 10	. 16	. 10													1.2
Usan.	Great Salt Lake			. 24											. 18		. 20			***													0.7
nnabella	Sevier Lake													96	11	19	07		T.	S.S.													1.7
Black Rock	da	1		5.4		1			1				1	1	91					. 41						Acres.							1.2
Blacksmiths Fork	Great Salt Lake								· lees					. here's				****							***								*****
Card Canyon	do		1		1	-		1	1	1	1			1							Lucia									Jekes			
Cedar City	Desert. Great Salt Lake Sovier Lake														99		90								***							****	0.7
Corinne	Sevier Lake			.40					1:::	1::::		****		. 25	.00	. 08	. 95		.04	.42				****									2. 1
Interprise	Desert			Acres.					der.				T.	dense																			
armington	Great Salt Lake Sevier Lake		T.	. 85							T.	***		94	. 19	T			400	- 80		1	2	10000	l	· · · · ·							
riese Summit	Great Salt Lake															****				98		****									****		1.2
risco	Great Salt Lake					* * * *			***																								1.0
arrison	Great Salt Lake Desertdo			. 30										.10	. 0	. 50	.37	. 15	T.	0.5		1			L								1.5
Grantsville	Great Salt Lake	T.		. 06		****			***				***	T.	T.	.06	. 25																1.3
Grouse Creek	Desert Great Salt Lake											T.		. 03		. 38		. 92	.01		T.					. 0	1				****		1.3
Heber	Great Salt Lake			.06 T		****	****				***				. 25	.18		. 18 T.		. 15	****	****				T.							0. 7
Heneferbapah	Desert		T.	.13										. 45		.46			T.	T.					T.							****	1.4
bexnternational	Great Salt Lake													05		. 12	19						100										0. 20
osepa	Desert													1	36	1	19	18														****	0.60
Kanosh	Sevier Lake			. 73										. 18	. 32		.07	.06	17	66	2			1	1				. lead of				2. 19 0. 13
Kelton	Great Salt Lake Sevier Lake			71							***			. 02	. 31	.05	. 32	.01	T. .02	. 65	. 19												2.28
ogan	Great Salt Lake													. 33		. 22		· ·	. 29													****	0. 88
Jucin	Desert Sevier Lake			80										T	1.44	.07	.24	.28	. 29	****	T.												2. 19
darion	Great Salt Lake Sevier Lake															. 14			. 13														2.3
farysvale feadowville	Sevier Lake Great Salt Lake		2	. 24	.06									T.	T.	. 20	. 73	****	. 13	. 43	.00			****									0.4
filford	Sevier Lake																	1					1			.lees							0.76
Millville	Great Salt Lake Sevier Lake			90										3.5	. 31		. 28		16	45			1		***			***	1				1.4
dodena	Desert		00	. 18										. 10	. 16	1 . 28	. 16			. 81												****	1.68
forgan	Great Salt Lake										7	7		T	46	49	01	90	.15	RR	14												2.9
Ioroni	Sevier Lake Great Salt Lake		1.10	T.	****						T.	1.			. 11	. 00	. 09		. 32	. 00													1.0
Nephi (near)	do								· ·																					****			*****
Oak City	Sevier Lake Great Salt Lake				****			****			****			T.	. 10		.08							****									0. 18
ogdenake	Sevier Lake	. T.	.80	. 45				1					T.	40	9.5	40					****	****									****		2.46
Park City				1.00				****					***	.11	.17	.17				. 32				****									2.2
ayson	Pesert. Great Salt Lake		T.	. 12															. 22														1.46
Pinto Promontory	Desert			. 17	. 35								***		. 48	, 02		.40		. 34	****												0.40
Provo	do			T.	. 12									T.	. 16	.30	. 40		.40														1.39
Randolph Richfield	Sevier Lake															. 10	.07	.04		. 23	****												
Saltair	Great Salt Lake													T.	. 01	T.	. 19	. 03		***												****	0. 24
Salt Lake City	do		07	. 10									T			.37			. 43	. 03	18		****										9 06
ScipioSevier Mine	Desert Sevier Lake		.30	.42	. 40				***		****			. 12	.40	.38				***													2, 02
Scipio Sevier Mine Sevier Mine Seliver City Spanish Fork Canyon Strawberry Valley Chistle Cocele Utah Lake Pump'g Sta	Desert				.07										. 14	.08	. 26	.08	.04	.31			****										1.00
Strawberry Valley	do	* * * * *		. 30	.01	****		****							.50	.17	.92	.02	.10	. 21	.39	.01											2.66
Chistle	do			.00							T.		T.	T.	.30	. 15	.70	.06	. 15 T	. 20 T	.06					***		1	1000				0. 72
Utah Lake Pump'g Sta.	do			.08	****	****								1.		1				**	****												*****
Voodruit	do																	****					****	****					1	1000	1	-	1
Oregon.	Southeast Drainage						l						T.	. 05		. 14			. 10	. 33		. 02											0, 64
Burns Mill	do				****								. 08		. 17				. 50	***	. 06												0.83
Burns Mill Christmas Lake	do													. 13		37	.07	****		. 18	.06	.09											0.90
Diamond "H" Ranch	do																																0.76
Christmas Lake Diamond "H" Ranch Paisley	do												T.			. 13	T.	T.	. 40	. 23	T.	****	I.	****							T.		0. 0
P." Ranch	do																			***													
P." Ranch Silver Lake Valley Falls	do												lace.	03		20	T	.11	.16	.35	T.	.01	****	****			****		T.				0, 80
California.	do					****	****	****	****		****			1.00								1	1			1	4	1		1			
Il Tahoe																					1.4.4.	1			1			1					1. 3
Bijou	do										****		****				****	****			****												0.00
Socia	East Walker					****									. 47	. 36											***						0.8
ridgeport	do					****					***	****	****	****				****				***	****	****	0.8.0								
Brockway Deer Park																										1	1						
Jonner Ice Camp	do			****				****						49	94		. 00	****	****		****	****		0.00.0									0. 9
ales' Hot Springs	Truckee			.00			****	****	***		****			. 93	. 00																		0.7
ales Hot Springs Blen Alpine Springs Lobart Mills Lobart Mills Lobart Mills Lobart Mills Lobart Mills Lobart Mills Lobart Mills	do				****										.18	. 20	. 33																0.71
tarkiesville	East Carson		1									****																					80.00
cKinney. hields' Ranch	Truckee																																0.00
nields' Ranch	West Walker East Carson													.34	. 00	.04	T.	****										0000			10000		0.82

TABLE 2.—Daily precipitation for September, 1910. District No. 10—Continued.

															I	ay o	of m	ont	h.														1
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
California-Cont'd.			1										T																				T
ahoe	Truckee														. 25	. 55																	
allac	do				in																												1
ruckee					· con				lever																								
oodfords	West Carson														. 85	.30	T.				****	***			****			****		****			1
rora	East Walker																																
stin	Roose																						****										
ttle Mountain	Humboldt		07												. 10	. 22																	T.
owawe	do														.48	. 52																	J.
rlin	do		. 02												. 02	. 03																	1
reon Dam	Carson			. 12											. 10	. 26																	1
erry Creek				T.										T.	. 12	. 30	. 12	.17	. 01														
over Valley	do																														****		1.
brn	do												T.	. 12	. 13	. 17	.30	.40	.04	. 29					****			****					1
lumbia				.07					1000		1000	100	1.		. 92	.08	,																1
tton	Humboldt																																
	do			. 00											08	07	06	.00				***								* * * *	****	****	1
	do						****				T			T	07	20	56		****			***	1444		****	****	****	****			****		1
	do	*		99				* * * *						30	91	49	. 90	****				1.45		****			****	****		****	****	****	1
lon	Carson		01	19		4000								. 00	04	90	***	****	****		****	4.20		.x	****	****		****			****		1
nley	Truckee	*****	- 108	T						****				00	91	. 40	***		****		****	440	****										L
rdperville	Carson			A.										.00	01	80	***		****									****					1
																																	1
yser	Humboldt			1111								****		90	0.5																		
nbrook	Truckee																																1
	Humboldt			44.4		1.000			1.8 . 1	++++		***			. 30	. Zo .	***		1080		****	* * *			****								
lleck	do		2474	2518			***		1277			4848	1.666	****																			1
n	Desert																				* * * * *										* * * 8		
tville	Carson																																1
rers Ranch	Truckee																																1
relock	Humboldt	· · · · ·			-,,-							* * * *			****													***					*
Afee's Ranch	Desert															1	.04						***					xex		8.4.8			
lett	Reese							****							. 62																		ı
18	Desert																***																1
rth Fork	Humboldt														. 17	. 15	. 30 .						***					***					п
metto	Desert														. 70	. 14 .	***																
radise Valley	Little Humboldt																																
to	Little Humboldt			T.											. 15	. 10		T.															
inn River Ranch	Humboldt															.00	. 45																
10	Truckee									0001					.02	. 23	. 03																
se Creek	Humboldt										1111			. 22	.35																		
th	West Walker						333								. 10	. 17																	* *
oners Ranch	Truckee												1000	. 05	. 25	. 26	.03																
a Lake	Carson														. 06																		
etwater	East Walker																T.																
oma	Humboldt													10		4	20	T	***					***						***	***	***	
opah	Desert		T											. 20	56	20	200				***		***	***			***	***	***			***	
ouaka	Walker	1											****		. 00			***	***								***			***		***	
8	Humboldt	1					***							50	.00	1	00	10	***								***	***	***	***		***	* *
low Point	Little Humboldt												1 4 × ×	· sm	04	05	00	. 10	***		***									***		***	
nemucca	Humboldt	1339	(4.64				333				1151	CKEE	190		96	40			* * * *				***	***	01			* * * *				***	
MORE COM	ILUMIPOIGE	4.4.4.4	5566		1444		***						4.		x 400	. 24 .									. UI							***	

Table 3.—Maximum and minimum temperatures at selected stations. September, 1910. District No. 10, Great Basin,

		Wyo	ming.		1		1										U	tah.										
		Border.		Evanston.		Weston, Idaho.		Corinne.		Deserct.		Creek.		Ibapah.		Marysvale.		Meadowville.		Modena.		Ogden.		Parowan.		Provo.		Salt Lake City.
	Max.	Min.	Max.	Min.	Max	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max	. Mi
	78 78 70 62 71	39 29 36 32 22	75 76 70 60 68	40 36 45 35 26	82 80 77 68 71	45 37 47 55 30	90 92 89 89 96	53 48 49 46 52	87 86 70 80 76	60 47 48 49 36	88 80 72 73 74	62 46 50 50 36	80 70 65 69 74	48 40 43 39 31	84 75 77 77 77 76	48 49 53 41 34	78 76 76 66 71	46 42 45 46 29	83 85 75 78 81	51 51 50 44 42	78 74 75 69 71	58 53 51 53 43	82 81 81 81 82	41 42 44 43 43	90 88 82 74 81	56 53 55 49 38	82 75 75 68 76	68 56 57 56 45
**	79 81 80 86 79	24 29 30 27 29	76 78 80 81 77	28 52 40 37 40	82 83 85 86 77	38 43 40 30 43	92 88 97 94 88	37 33 47 44 46	86 87 91 92 89	47 59 46 51 55	76 95 90 91 90	38 39 54 55 51	81 83 84 86 86	45 47 47 49 49	80 85 87 86 86	40 50 42 40 46	78 79 81 83 79	36 48 35 23 47	82 83 85 88 88	46 52 47 44 44	81 81 83 85 82	49 53 54 57 57	82 82 85 88 88	44 44 46 47 49	90 93 93 96 91	46 66 57 50 52	86 87 88 90 86	58 68 67 61 62
**	77 70 74 70 78	30 37 52 50 41	70 73 74 64 73	31 37 45 49 49	64 72 83 70 82	49 46 50 54 46	86 88 89 90 88	44 49 50 46 57	84 85 77 71 82	47 49 58 57 56	81 83 72 83 82	38 43 54 58 56	82 67 64 71 63	35 37 49 47 49	84 82 70 87 80	57 55 54 50 51	65 70 78 71 72	44 42 48 51 50	84 79 70 71 75	56 53 51 54 55	87 68 80 76 80	51 57 61 59 59	83 82 81 69 71	53 52 49 55 55	78 88 84 80 85	49 49 45 59 59	70 88 81 72 82	54 56 63 61 62
	75 80 79 80 79	50 45 42 38 31	74 77 76 65 78	48 37 43 42 40	78 81 75 82 81	52 51 51 48 48	87 88 82 85 85	45 53 49 52 52	80 84 86 73 82	58 53 51 52 51	85 81 83 72 84	57 53 55 52 54	71 72 77 68 77	48 47 49 54 58	68 79 80 64 80	58 46 49 48 47	75 70 77 72 78	45 45 42 43 40	77 80 80 73 77	54 49 49 55 48	76 80 80 76 82	59 58 58 61 57	73 55 77 80 81	55 53 50 49 47	81 88 86 81 90	59 54 58 57 54	79 84 84 77 84	61 57 63 61
	77 66 68 72 63	37 54 29 29 34	74 66 68 70 65	41 38 30 32 37	78 72 73 76 69	52 43 37 38 43	82 84 80 80 78	64 56 41 45 39	83 73 75 83 81	50 45 39 42 47	75 68 72 78 70	52 44 40 49 45	72 64 70 73 65	45 37 37 43 40	80 72 73 78 78	41 39 36 38 42	75 68 65 72 64	45 31 34 35 38	78 72 75 79 77	40 41 41 42 48	76 66 67 74 67	54 50 48 49 50	78 76 76 77 77	46 44 43 42 42	82 60 71 84 74	47 47 41 44 49	75 66 73 79 68	57 53 48 51 53
	66 72 78 71 75	14 18 28 41 26	65 70 65 63 68	30 25 33 42 30	70 77 80 79 78	25 28 37 50 37	76 87 85 89 86	36 33 32 40 42	78 82 84 80 83	37 38 40 44 37	71 79 82 76 80	38 42 52 47 45	69 71 75 71 76	37 40 45 40 45	70 81 80 78 78	36 36 36 36 34	62 71 79 71 70	22 26 31 44 34	77 79 77 78 78	48 39 44 42 40	67 74 79 74	42 45 54 52	77 78 79 80 85	42 48 48 45 43	80 88 86 80 82	44 37 49 49 42	70 81 83 76 81	46 43 54 50 50
8	74.5	34.1	71.3	37.9	77.0	43. 1	87.1	46.2	81.7	48.0	79.6	48.5	73. 2	44.0	78. 5	44.4	73.1	39.9	78.8	47.7	76.14	51.7	78.8	46.8	83. 8	50. 5	78.5	57.
1														- Walter a	Ne	vada.												
	9	Darins, Oreg.		EIRO.		Ely.		Eureka.	The state of the s	ration.		Jenn.		Lovelock.		Mulet.		Milita	Ouinn River	Ranch		Reno.		Tecoma.		I onopah.		Winnemucca.
	Max.	Min.	Max.	Min.		Min.	Max.	Min.	Max.	Min.			Max.	Min.	Max.	Min.	Max.	Min.		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Mir
	87 80 81 78 82	35 36 30 28 35	83 80 79 79 78	29 31 31 32 27	62 66 63 59 51	40 37 39 42 41	85 77 67 75 81	46 40 45 44 35	89 85 80 85 86	42 40 53 49 37	99 99 92 94 97	70	*****	******	87 77 73 82 86	39 36 43 35 33	90 82 84 80 88	48 47 56 60 56	84	62	85 79 82 83 87	46 45 50 47 44	86 78 76 78 80	38 36 34 36 28	82 72 67 76 80	61 54 52 54 54	81 80 77 84	44 47 55 46 35
	81 80 76 78 82	36 32 37 40 30	80 82 88 90 85	31 33 34 32 28	57 60 65 67 60	33 32 35 36 29	83 84 85 89 86	49 44 49 49	90 89 87 90	45 46 47 42 41	98 99 98 106 103	74 75 77	******		87 87 90 89 79	42 35 33 34 41	92 88 88 90 92	54 64 58 42 50	85 83 84 83 80	37 35 33 29 43	80 80 85 88 88	50 53 44 45 47	69 74 78 92 86	34 28 36 42 35	83 81 83 87 88	59 56 55 60 63	84 84 85 88 83	47 43 39 34 42
	79 81 75 72 74	32 37 32 45 38	82 80 81 76 71	20 35 32 34 30	62 67 60 72 66	34 36 34 53 47	76 72 71 68 64	41 49 50 52 47	79 78 76 65 99	41 40 32 51 53	99 95 91 83 92	68 72 72			76 77 72 70 70	40 51 55 51 50	80 86 84 74 72	48 44 49 44 52	73 83 77 69	27 31 31 30	72 70 75 61 69	49 40 35 46 54	76 72 76 74 84	34 36 34 37 40	78 70 70 66 69	59 55 49 52 52	66 79 78 58 64	43 39 37 50 54
	76 75 80 82 72	35 33 42 40 45	70 78 80 84 80	36 43 40 39 36	75 77 78 80 79	51 50 49 51 44	76 79 79 79 79 77	52 48 57 61 51	80 78 69 82 77	49 40 39 36 39	99 97 95	70	*****	* * * * * * * * * * * * * * * * * * * *	76 79 79 78 77	54 41 38 43 40	84 78 80 80 78	56 48 42 40 44	72 71 70 74 72	47 33 42 48 33	70 75 71 71 71 74	49 41 43 39 41	86 82 86 84 82	41 38 42 42 41	75 77 76 74 75	55 53 55 54 51	72 75 74 82 74	43 38 48 41 39
	72 76 82 83 76	36 38 37 34 36	78 80 76 74 72	38 31 34 33 35	79 75 79 78 74	39 34 43 43 36	71 71 76 79 74	38 38 39 43 43	76 76 81 85 80	40 49 41 45 45	90 87 85 80 78	63 65	*****		75 74 79 82 78	27 37 37 37 47	78 80 76 80 82	40 48 40 52 48	78 83 80 83 85	36 37 45 31 20	76 75 81 82 78	41 45 44 49 47	76 78 78 74 74	40 40 35 38 35	71 70 75 76 73	50 50 51 59 53	70 72 79 83 76	39 44 40 39 41
	78 75 77 80 82	32 39 32 35 37	70 76 72 76 79	31 34 38 31 31	77 75 74 74 79	37 40 38 38 38 34	76 78 78 78 78 78	38 43 50 40 42	81 86 80 80 85	39 40 41 40 39	80 81 80 78 77	65 63 63 60	******		80 80 78 79 79	35 33 37 38 33	78 82 80 86 84	40 46 44 52 58	84 81 84 83 84	45 34 37 42 31	81 81 75 81 83	45 46 46 42 43	76 76 78 82 76	23 27 28 32 28	75 76 75 74 76	53 55 55 55 52 57	80 84 79 80 84	36 37 42 36 37
-10	78.4	35.4	78.7	33.1	70.0	39.8	77.1	45.5		43.0						40.2	82.5	48.9	79.40	37.20	77.8	45.2	79.0	35.3	75.7	54.6	77.9	41.8

Climatological Data for September, 1910. DISTRICT No. 11, CALIFORNIA.

Prof. ALEXANDER G. McADIE, District Editor.

GENERAL SUMMARY.

September in this district was somewhat cooler than the average. There was more rain than normally falls in September, the month, as a rule, being one of light precipitation, still at a large number of stations there was no precipitation during the month. There was a period of unsettled weather in many sections on the 13th, 14th, and 15th, and in the southern counties showers occurred also on the 30th, the precipitation being light

however, except in the mountains.

There were no special features of importance in the general character of the weather for the month. There was a succession of pleasant days with moderate temperatures on the coast, and no extremely high temperatures in the interior from the 1st until the 13th. The morning reports of September 10 indicated the existence of a kona storm over the Hawaiian Islands; and the pressure distribution over the United States was such that the possibility of a northward extension of the subtropical rain belt suggested itself to the forecaster. On the night of September 13 rain was imminent in the extreme southern counties of California, and thunderstorms were reported throughout the Valley of the Colorado with strong southerly winds. Northerly winds with a rainfall of 1.22 inch occurred at Yuma, Ariz., and 1.94 inch fell at Campo, Cal. Rain began at Blythe, Cal., on the 12th, and continued until the 14th.

The rain area slowly extended northward across the Sierra Madre, and on September 14 heavy showers occurred throughout the San Joaquin Valley, the Sierra Nevada, Owens Valley, and eastward through the Great Basin. There was but little change in pressure distribution. While the disturbance originated in the south and moved northward, there was practically no rain at Los Angeles and San Diego; but heavy rain fell along the coast between Point Hueneme and Point Conception. At Santa Barbara, on the 15th, 2.36 inches fell and at Pine Crest 2.54 inches. The rainfall at Ventura, or rather in the whole bean section, did considerable damage to beans. In the raisin section of the San Joaquin considerable damage was done, as the grapes were on the trays and conditions were not favorable for stacking. The total rainfall at Fresno up to 8 a. m. of September 15 was 1,00 inch, making the largest seasonal rainfall to date during the past 23 years. This early rain is described in detail elsewhere in the report from this section.

That portion of the month between the 16th and 19th was one of unsettled weather, with considerable cloudiness in the morning hours and at night, but fair weather during the day. From the 20th to the 30th normal conditions existed, except in the counties south of the Tehachapi, where at the close of the month thunderstorms occurred.

The month was without any warm spells, particularly high temperatures with strong north winds. In the desert sections some high temperatures were recorded, notably 119° on the 3d at Mammoth Tank, and 116° at Indio on the 9th, and 115° at Blythe on the same date. Last year during September the highest temperature recorded in this section was 108°.

The prevailing winds in the southern counties were from the south; but in the coast counties they were from the west. There was considerable fog along the coast during the morning hours.

TEMPERATURE.

Comparing the present month with previous years it appears that the mean temperature of the State, while nearly a degree cooler than the mean for the past 14 years, was warmer than September, 1907. September, 1908, and September, 1909, had practically normal temperatures.

Year.	Mean.	Departure.	Year.	Mean.	Departure.
1807 1898 1899 1300 1901 1901 1902	° F. 67.7 69.2 70.9 65.4 66.0 70.1 68.7	- P. -0.5 +1.0 +2.7 -2.8 -2.2 +2.5 +0.5	1904	* F. 70, 3 68, 6 68, 6 65, 6 68, 1 68, 2 67, 3	* P. +2.1 +0.4 +0.4 -2.6 -0.1 -0.9

The highest temperature recorded was 119° on the 3d, at Mammoth Tank; and the lowest 20°, which occurred at three places on different dates, namely, Quincy on the 1st, Macdoel on the 12th, and Alturas on the 14th. The highest mean temperature was 93° at Mammoth Tank and the lowest mean, 42.2° at Hornbrook.

PRECIPITATION.

The precipitation was greater than during any September during the past 5 years. The following table gives the average precipitation:

Year.	Amount.	Departure.	Year.	Amount.	Departure
1807. 1898. 1899. 1900. 1901. 1902. 1903.	Inch. 0, 03 0, 64 0, 03 0, 22 0, 94 0, 01 0, 10	Inch. -0.46 +0.15 -0.46 -0.27 +0.35 -0.48 -0.39	1904. 1905. 1906. 1907. 1908. 1909. 1910.	Inch. 2. 66 0. 16 0. 25 0. 13 0. 49 0. 52 0. 69	Inch. +2.17 -0.33 -0.24 -0.36 0.00 +0.03 +0.20

The greatest monthly precipitation was at Ozena, Ventura County, 4.15 inches, and there were other heavy rainfalls throughout Ventura and Santa Barbara counties. The rainfalls were also unusually heavy and unusually early in Fresno, Kings, Tulare, and Kern counties. There were a number of stations reporting 1.00 inch of rain or more on September 15. The greatest 24-hour rainfall was 4.10 inches, which occurred in the Ojai Valley September 14–15. Many stations reported no precipitation during the month.

SUNSHINE.

The following table gives the hours of sunshine and the percentage of possible:

Stations.	Hours.	Per cent of pos- sible.	Stations.	Hours.	Per cent of pos- sible.
Eureka Fresno Los Angeles Mount Tamalpais Red Bluff Sacramento	132 338 282 346 326 343	35 91 76 93 87 92	San Diego San Francisco San Jose Alturas Santa Barbara Santa Cruz		72 67 78 83 74

NOTES ON THE RIVERS OF THE SACRAMENTO AND SAN JOAQUIN WATERSHEDS DURING THE MONTH OF SEPTEMBER, 1910.

By N. R. TAYLOR, Local Forecaster.

Sacramento watershed.—There was little change in the Sacramento River north of Red Bluff during the month; the river at that point averaged 1.0 foot, which is the same as that recorded during the month preceding, and 0.4 foot above the low water of 1908.

There was also a slight rise between Red Bluff and Colusa, while south of Colusa, and especially between that station and Knights Landing, there was a rise between the 15th and 19th. At Knights Landing the average stage was -0.1 foot, the lowest of which there is a record.

By the close of the month the river at most points had receded to the low stages that prevailed previous to the rains and was either stationary or falling slowly from the mouth of the Pitt River to Collinsville.

Heavy rains in the headwaters of the Feather-Yuba from the 14th to 16th resulted in marked rises in all of the smaller streams throughout this territory, but, with the exception of the Yuba at Marysville, where there was a rise of slightly over 1 foot, little effect of the rains was noted in the main streams.

The American River averaged somewhat higher than during

the preceding month.

San Joaquin watershed.—Rain fell generally throughout the drainage basin of the San Joaquin River from the 14th to 16th, and all the tributaries responded thereto. At most points the river, prior to the rains, reached the lowest levels ever recorded, notably, the Stanislaus at Melones, where it fell to over 4 feet below the zero gage, and where an average of nearly 4 feet below was maintained.

The San Joaquin itself responded quickly to the rainfall at all points along its course, with a rise of over 3 feet at Pollasky and Firebaugh, and of 2 feet at Lathrop, but it receded rapidly during the last decade of the month, and its general average was as low or lower than that of the month preceding.

EARLY RAIN AT FRESNO, CAL., IN SEPTEMBER.

By W. E. BONNETT, Local Forecaster

No feature of the meteorological record for the month needs particular remark except the unusual rains of the 14th and 15th. The extremes of temperature, 102° on the 1st and 48° on the 13th, are well within the limits established from 23 years of record. The rains here mentioned are remarkable for their amount and for the early date upon which they occurred. A fall of 0.27 inch occurred during the forenoon of the 14th, this being greater than any shower to that date since the beginning of the Weather Bureau record at Fresno. A further fall of 0.73 inch occurred on the 15th, and the weather remained threatening during the 16th with a light shower in the early morning hours.

Warnings of rain were issued on the evening of the 13th, and the work of stacking the raisin trays went on in the vineyards during the entire night. Practically all picking had been done, but the work had been finished so recently before the rains that much labor imported into the vineyards for picking the crop was still available for the business of stacking trays. convenience of night work can well be imagined and the difficulty of securing assistance for stacking in the nighttime hours is very great for those who do not have the necessary help permanently employed. The night of the 13th was partly cloudy to cloudy so that the moon, although nearly full, lent but feeble aid to the workers. Furthermore, the quantity of the product to be thus speedily handled was very great, and a part of the crop was found unprotected when the rains came. It is impossible even at the close of the month to obtain a fair estimate of the damage, but the loss will probably not be very great. In no case that has come to my notice has it been necessary to dispose of the raisin grapes, that were wet, to the wineries as sometimes happens. All will be saved as raisins. The damage consists in a somewhat poorer quality of the product, an inferiority due principally to a less salable appearance rather than to any real inferiority in quality. The fact that the rains were so early will probably account in great part for this comparatively small damage, as the raisins were in the earlier stages of the drying process, many not having been turned. However, the rains are having the important effect of prolonging the drying season and a great proportion of the crop remains on the trays at the close of the month. The ground was thoroughly wet and dew formed almost nightly, a meteorological phenomenon that is rare for September under normal conditions at this

place. Drying, therefore, ceases during the night and it is proceeding slowly during the day under this condition of increased humidity. In a lengthened drying season, the cost of production may be greatly increased, owing to the possible need for repeated stacking and unstacking of the trays with the approach of the rainy season.

CONSERVATION OF THE PURITY OF THE AIR—PRE-VENTION OF SMOKE.

By ALEXANDER G. McAdie.

Some interesting questions arise in connection with the present use (also the proposals to use on a much larger scale) of electrical agencies for smoke prevention in cities on the Pacific coast, and especially near San Francisco. In the July report of this section reference was made to the methods used for removing the poisonous gases in smelter fumes. The need in this case was urgent, and Doctor Cottrell and those working with him have made it possible for smelters to carry on work near a large city. The irritating gases, especially the sulphur and arsenic compounds, are deposited; but it is our understanding that the carbon products are allowed to pass out into the air.

Beyond the individual problem of protecting the community from the effect of smelter smoke, there looms the much greater problem of the general purification of the air near the ground. It comes home with force to every one who must live near an industrial center that a smokeless atmosphere is a great privilege. In some communities steps have been taken to bring this about, either by improving the methods of combustion or by the use of smoke filters.

Another important matter is that of producing and maintaining dust-free atmospheres where there is special need for the same, as in hospitals, schools, auditoriums, etc. Eventually we must deal with the problem of depositing, not only the dust and nuclei of condensation, but the condensed vapor in the air also. This will lead in time to problems connected with the dissipation of fog at terminal points or in harbors, and ultimately the problem of fog control may be attacked.

In California oil is coming into widespread use and one would naturally think that, with modern methods of combustion, there would be less smoke; but such is not found to be the case. Oil is now being used not only as fuel, but in the making of gas. There is some reason for believing that, with the introduction of certain improvements, gas-house chimneys, which have always been conspicuous offenders in the pollution of the air over cities, may cease to be such. That is to say, it is proposed to practically utilize the carbon recovered in the manufacture of gas from crude oil.

Where oil is used for fuel, the gas products are carbon dioxid, carbon monoxid, and nitrogen. The smoke particles are hydrocarbons, volatile at comparatively low temperatures. In most furnaces the flame is to some degree extinguished by impinging on a comparatively cold surface. The load of carbon dust therefore passes out unconsumed. In a properly-constructed furnace all the fuel should burn and nothing pass out as black smoke. The following paragraph from an editorial in the leading power journal of the Pacific coast is worth quoting in connection with the discussion to be given later, because it not only calls attention to the mischievous effects of imperfect combustion, but shows how the fuel bill can be reduced:

Smoke is a nuisance in the eyes of the law and any reasonable ordinance intended for its abatement will be sustained by the courts. When the dirt that it creates and the discomfort that it causes become intolerable, the sufferers appeal to the lawyer for relief, and drastic legislation sometimes ensues. This may be obviated by a little care and foresight on the part of the stationary engineers, if they will but anticipate this inevitable effort for civic betterment, by drafting and urging reasonable legislation. In other words, they should not leave to lawyers and politicians the regulation and even operation of their power plants. * * * If half the time expended in trying to outwit the inspector were utilized in legitimate smoke prevention, the fuel bill at least would be the gainer.—Journal of Electrical Power and Gas. Vol. 25, No. 2, page 34.

Aside from the economy in the use of fuel there can be no questioning the right of a community to a bountiful supply of pure air. Dust-laden and foul atmospheres contribute more to the undoing of the public health than is generally recognized. Provided the air be pure, changes of temperature, humidity, and pressure are more readily borne, because one's vitality has not been persistently lessened. In an impure atmosphere, where the dust, vapor, and gas content is high men fail to show a high efficiency in their daily work.

The air of cities is nearly always laden with impurities. It was shown in Aitken's experiments that where the wind came from cities the number of foreign particles was greatly in excess of the number found in air coming from the mountains or from the sea. The following table, which may be found in an expanded form in Aitken's papers, tells an interesting story in a few words:

During rain, 32,000 dust particles per cubic centimeter. During fair weather, 130,000 dust particles per cubic centimeter.

In a room, 1,860,000 dust particles per cubic centimeter.

In a room, near ceiling, 5,420,000 dust particles per cubic centimeter.

In Bunsen flame, 30,000,000 dust particles per cubic centimeter.

The last item is especially significant because in the modern city, with tall office buildings, many men are required to work on a level or slightly above the chimney tops of lower buildings. Even with a very perfect combustion there must still be an enormous output of dust particles. In the case of smoky chimneys or where the combustion is imperfect, as is too frequently the case, there is poured forth a volume of comparatively large masses or agglomerations of numerous smaller particles.

It is not easy to ascertain the degree of pollution caused by any one chimney stack or for that matter a collection of chimneys. The following illustration, however, gives some idea of the actual weight of the solid impurities set free in the atmosphere of a large city to the detriment of all who live in that city. The American consul at Leeds, Mr. B. F. Chase, calling the attention of American manufacturers to an opportunity for the introduction of mechanical stokers and smoke-consuming devices, states that the business portion of the city is in need of air purification. Tests¹ were made of all the rain falling from November, 1907, to October, 1908. It was found that solid impurities diminished rapidly from the center of the town outward. In the chief industrial center the amount was twenty

times greater than at a point three miles northeast. About 300 tons of soot per square mile reached the ground in the business section. The average amount was 100 tons per square mile.

The center of the city received but 83 per cent as much bright sunlight as a place but 4 miles away. Where the impurities were 1,536 pounds per acre there was 40 per cent less light than where the impurities were 146 pounds.—

Monthly Consular and Trade Reports, 1910, p. 116.

In the European and older American cities the fuel used is chiefly coal, but in many of our western cities, and particularly now in California cities on the central and southern coast, oil is the fuel most commonly used. There ought to be less pollution of the air than when coal is used, owing to the better combustion, but apparently this is not the fact for one can see vast volumes of black smoke pouring from chimneys in San Francisco and other cities where oil is used for fuel. In a discussion on "Possible Improvements in Steam Power Plant Economy," before the San Francisco section, Institute of American Engineers, June 25, 1910, one speaker (Mr. A. H. Halloran) in showing the need of economy in combustion, made the following statement:

From 90 to 95 per cent of the energy in coal is wasted. One-third goes up the chimney as smoke and one-half is lost in exhaust steam. It seems to me that if our engineers, and also legislators, devoted as much time to improving the economy of existing power sites as they now expend in attempting to withdraw water-power sites or coal and oil lands they would do more for posterity and ourselves, because posterity will blame us more for our wasteful use of power than praise us for conserving disuse.

In this discussion the queer point came out and was alluded to by several engineers, that there could be an excessive and wasteful use of air. As a rule, about 50 per cent excess air is considered good practise; but there are many establishments in which the ratio of air supplied to that required would run up to 3, i. e., 250 per cent more than required. This causes a loss of efficiency. Air being obtainable without cost and the supply limitless, it is only natural that there should be considerable carelessness shown in its use. If, as one of the speakers said, owners of power plants had to pay for the air used, as they do for other materials, scrutiny of the bills would soon lead to cautionary directions to engineers and firemen regarding wasteful use of air.

There is needed then, to conserve to the community its right to enjoy unpolluted air, radical improvement in the selection and preparation of fuel and in the methods of burning. At present both the combustion and the furnace control seem to be imperfect and our methods crude and wasteful. Too large a portion of the fuel now escapes in the form of smoke, a positive menace to health and a source of annoyance and loss.

¹By professors of the University at Leeds.



Fig. 1.—Oil products of combustion—black.



Fig. 2.—Wood smoke and steam—white.

Table 1.—Climatological data for September, 1910. District No. 11, California.

			l, yrs	Temp	perature,	in d	едтее	s Fah	renh	ett.	Pre	cipitatio	n, in i	nches.	day.		Sky.		etion.	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of clear days.	Number of part- ly cloudy days.	Number of eloudy days.	Frevailing wind	Observers.
Oregon. Glamath Agency	Klamath	4, 169 4, 250	2 15	48.5		78	11	20			0. 19		0.15	0.0	3	19	6	5	nw.	Edson C. Watson. W. H. Heilman.
akeview	Lake	4,800	7	55.1	- 3.6	79	91	30		43		+ 0.13	0.36	0.0	4	22	. 6	2	nw.	Geo. L. Wharton, jr.
errill	Klamathdodo.	4,070	3	53.6		80	2†	25	14	50	0.31	*******	0.30	0.0	2	23	3	4		Mrs. Agnes Ritchson. Jacob Rueck.
California.	Alameda						00	40							-					Chas. E. Sears.
amedaturas	Modoc	4,460	6	62.5 55.8	*******	93 87	20 5	49 20	17	60	T. 1.91	******	T. 0.83	0.0	8	26 21	7	2 2	W. SW.	Prof. C. B. Towle.
nderson (near) ngiola	Shasta Tulare	550 208	10	69.4	- 1.8	100	11	40	94	56	0.88	+ 0.79	0.88	0.0	1	26	0			C. S. Richardson. Santa Fe Co.
ntioch	Contra Costa	46	31		******	*****		*****										4	n.	Southern Pacific Co.
rowhead Springs	Santa Cruz		25	59. 2 80. 0	- 1.7	75 107	9	48	29	27	0. 15	- 0.30	0.08	0.0	1	20	1	8	nw.	G. I. Royce.
aburn	Placer	1,360	9	67.6	- 3.4	93 85	3	44	13	43	1.09	+ 0.61	0.63	0.0	2	26	0	4		Southern Pacific Co.
valon	Los Angelesdo	540	8	66.7 74.6	*******	112	14	55 46	21	18	0.13	- 0.31	0.13	0.0	0	26 27	3	0	w. sw.	W. N. Vilas. A. P. Griffith.
sgdad	San Bernardino Kern	784	21	89.4 77.0		110	11	66 52	30	32	0.00	- 0.13	0.00	6.0	0	30	0	0		Santa Fe Co. Do.
Arstow	San Bernardino	2, 105	7	81.1	+ 1.2	111	9†	50	8	55	0.00	*******	0.00	0.0	0	30	0	0	*****	E. L. White.
rkeley	Alameda	98	23 11	58.3 75.0	- 3.0 + 4.9	80 95	14	48 55	14	30	0.06	- 0.46 - 0.21	0.06	0.0	1	6 28	18	6	8W.	State University Southern Pacific Co.
shop	Inyo	4,450	15										*****	*****		****				W. A. Chalfant.
ocksburgue Canon	Humboldt		11	60.7	- 2.2	91 82	23	35 32	17†	43	T. 2.20	+ 1.04	T. 1.80	0.0	2	27 ₅ 22	0	8	nw.	Victor Hope. Southern Pacific Co.
ythe	Riverside		10	85.0		115	9	32 54 36	23†	51	0.96		0.74	0.0	3	23 28	4	3	sw.	H. V. Blenkiron. A. J. Haun.
awley	Imperial	-105	1	86.6		87 111	17	60	16 27†	43	0.06	- 1.26	0.06	0.0	1	28	2	0	n.	U. S. Weather Bureau
ush Creek	Butte	2,140	5	63.2	******	96	6	34	12†	52	0.80	******	0.80	0.0	1	****	****			Cal. Gas & Electric Co J. E. Peck.
liente	Kern	1,290	34	75.0	0.0	93	6	64	14		0.00	- 0.08	0.00	0.0	0	30	0			Southern Pacific Co.
ilistoga	Napa Santa Clara	363 217	38	58.4 61.2	- 8.3 - 1.2	90	10†	49 35	23† 13	40	0. 10 T.	- 0.26 - 0.43	0.08 T.	0.0	0	27 26	2		nw.	Do. F. M. Righter.
imptonville (near)	Yuba	3,500	3	68.5		98		38 32	13	46			1.55	0.0	3	24	4 7	2 .		S. B. Johnson.
darville	Modoc	189	16	58.4 70.1	- 0.2 - 4.5	98 85 99 95	9† 6 9 2† 9	32 42	19 13	43	0.77	+ 0.35 + 0.24	0.37	0.0	3	23 26	3		sw.	T. H. Johnstone. Butte Co. R. R.
ina Flat	Humboldt	600	18	67.0		95 104	2†	39 58	26	54	T.		T. T.	0.0	0	22 22	3 7	1	nw.	O. I. Westerburg. Southern Pacific Co.
sco	Placer	5,939	39	75.0 58.2	+ 3.8 + 2.5	73	19	49	7† 8†	****	2.60	-0.04 + 2.22	2.00	0.0	2	27	3 0	3	SW.	Do.
aremont	Los Angeles	1,200	18	74.3	+ 2.5 + 5.1	109 100	10	47	7	49 51	0.00 T.	- 0.11	0.00 T.	0.0	0	21 28	8	1	w.	F. P. Brackett. Lloyd Browne.
dfax	Placer	2,421	39	65.6	- 3.9	88	3†	42	12	37	1.37	+ 0.84	1.12	0.0	2	23	0		n. e.	Southern Pacific Co.
dusa	Tehama	277	7 24	63. 2 75. 7	+ 1.8	91 95	1† 2†	43 60	13 15†	38	0.47	- 0.12 + 0.55	0.47	0.0	1	24	3		n.	W. K. De Jarnatt. Southern Pacific Co.
Iyamaca	San Diego	4,677	11	69. 2	+10.2	95 92	10	48	26		0.33	- 0.13	0.33	0.0	1	20	9	1	e.	L. L. Macquarie. D. L. Wishon.
unt	TulareYolo	51	38	66. 8 65. 2	- 6.8	95⊄ 97	10	44 35	18† 14	41 55	0.42	- 0.17	0.32	0.0	2	19 28 21	1		sw.	S. H. Beckett.
ser Creek	Nevada	3,700	3 25	58.2	******	83	5†	31	3†	51	2.72		1.33	0.0	3	21	7	2	w.	Cal. Gas & Electric Co. Southern Pacific Co.
			10	69.4	- 1.6	100	1	39	12	50	0.20	+ 0.04	0.20	0.0	1	27	1	2		Santa Fe Co.
obbins	Yuba Mariposa	1,650	6	70.4	******	94	17	46 28	13	38 52	1.75 0.92		1.02	0.0	3	28 22	3		s. n.	Cal. Gas & Electric Co W. H. Dudley.
unnigan	Volo	65	33	78.4	+ 3.8	96 88 99	23 23	28 55	28		0.32	- 0.04	0.32	0.0	1	28 24	0	2	n.	Southern Pacific Co.
ınsmuirurham	Siskiyou Butte	160	21 15	62.9 70.3	+ 2.4 + 2.2	99	1†	40	131	40	0.78	-0.46 + 0.06 + 0.03	0.40	0.0	3 2	23	0		n. s.	Do. R. W. Durham
Cajon	San Diego	482 725	11	72.7 72.1	+ 3.7	102	9	45	21†	51	0.15	+ 0.03	0.15	0.0	1	28 25	3	0	sw.	H. H. Kessler. Cal. Gas & Electric Co
ectra	Amador	1,234	15	74.0	- 0.2	111	9	43	13	60	0. 66 T.	- 0.08 + 2.28	0.38 T.	0.0	0	26	3		w.	W. H. Bohannon.
nigrant Gap	Placer	5, 230 657	36 16	56. 2 72. 6	- 2.8 + 3.6	81 103	5 10	29 41	12 21	37 51	2.60	$+2.28 \\ -0.02$	0.00	0.0	0	25 7	23		w.	Southern Pacific Co. A. R. Moon.
reka	Humboldt	64	24	53.1	- 1.8	66	8	44		22	0.01	- 1.37	0.01	0.0	1	5			n.	U. S. Weather Bureau
rmington	San Joaquin Sacramento	111 252	31	71.9	- 0.1 - 2.4	95 100	10	44	29 13	48	0.50	+ 0.29 + 0.49	0.42	0.0		28 22	1 2		nw.	Southern Pacific Co. F. O. Hutton.
rdyce Dam	Nevada	6,500	38 15	53.8 .	******	76 93	8	38	2†	37 51	4.12	+ 2.39	2.60	0.0	3	23	4		sw.	E. E. Roening. H. S. Green.
08no	Fresno	1,650 293	23 21	63.6 73.5	- 0.8	109	1	48		41	0.70 1.00	+ 0.81	0.65 1.00	0.0	2	24	4 0	2	nw.	U. S. Weather Bureau.
uto	GlennSacremento	624	21	64.2	- 2.7 - 7.8	95 88 91	11	38 35 48 50 50 42 50 43	12†		0.15	- 0.25 + 0.14	0. 15 0. 20	0.0	2 1 2	26 26	0		8. W.	Southern Pacific Co. Do.
orgetown	El Dorado	2,650	32 37 26	66.8	- 6.2	91	10	42	12	35	1.62	+ 0.92	1.17	0.0	2	25	0	5 .		H. D. Jerrett.
lroy	Santa Clara	193 3, 222	26	65. 2 67. 6	- 0.8 - 1.7	95 89	10	43	13	38	2.40	- 0.12 + 1.50	0.05	0.0		27 23	0 2		se.	Southern Pacific Co. Do.
ngales	Monterey	127	11	58.3	- 2.8	95	91	42	5 .		0.32	+ 0.17	0.27	0.0	2	28	0	2 1	n.	Do.
eenville		2,690 3,600	38	64.6	+ 1.5	88 89	11	23		35 61	2.32 1.51	+ 1.48 + 0.26	1.24	0.0	2	26 23	6 5		sw.	F. R. Hull. C. H. Higbie.
overand	Tuolumne	2,828	1			90	17	23 37	13		0.87		0.49	0.0	3	23 24	5			H. S. Richardson. Southern Pacific Co.
niord	Yolo Kings	249	12	******												***	***			Santa Fe Co.
aldsburg	Sonoma	110	17	64.5	+ 1.7	100	10	40	10†	60	0.00	- 0.86	0.00	0.0	0	11	0	19	1.	John Favour. H. D. Ellmaker. E. T. Chumard. J. N. Thompson.
ber	Imperial	-20	4	87.0		114	31	56			0.28		0.28	0.0	1 2	26	2 4		W.	E. T. Chumard.
rnbrook	San Benito	284	36		- 3.4 -22.8	96 80	9	20	17		0.23	+ 0.11	0. 16	0.0	0	24 31	0	2 1	W.	J. N. Thompson. Southern Pacific Co.
t Springs	Tulare	3, 200	22 3 3	67.7	*****	90	1†	40 29 47 35 39	13†	37	0.11		0.08	0.0	2	24	0	6		U. S. Forest Service.
ilwild	Riverside	2, 250 5, 250	3 9	65.0	******	93	9	35	5	43	0.06	- 0.37	0.06	0.0	1	10 25	16		W.	John Duggan. Earl Powers.
lependence	Inyo	3,907	14	69.7	+ 0.6 + 1.1	96	10	46	20	43	0.72	+ 0.65	0.61	0.0	2	23	6	1 1	aw.	U. S. Weather Bureau. F. N. Johnson.
KID	Riverside	4,975	32		+ 1.1	116	22	62			0.00 1.68	- 0.11	0.00	0.0		25 18	9			Cal. Gas & Electric Co
10	Amador	287	32 .									******			***		***			Southern Pacific Co.
nestown	Tuolumne	1,471	7	69.8		94	9	42			1.51	*******	0.77	0.0	3	27	1	2		C. F. Macy. Sierra Ry. of Californi
ng City	Monterey		23 16		- 2.4 + 2.4	99 79	21	33	12†	62		- 0.12 + 0.57	0.09 1.35	0.0	1 3	27	0		n.	Southern Pacific Co. C. W. Hendel.
Grand	Merced	255	10	70.6	1.2	102	1	43	13	50	0.30	- 0.12	0.30	0.0	1	27 27 28 22	2	0		Santa Fe Co.
k Observatory	Tulare		15 21	78.4 62.4	+ 4.0 + 0.5	106 81	1	44				- 0.06 - 0.09	0. 27	0.0	3 2	22 29	0	4 1	W.	G. W. Sandidge. The Director.
ermore	Alameda		39	66.6	- 1.6	99	101	45			0. 10		0.08	0.0	2	27	1		W.	E. G. Still.

 ${\bf TABLE~1.-Climatological~data~for~September,~1910.~~District~No.~11--Continued.}$

			d.yrs	Tem	perature	, in d	egree	Fah	renhe	eit.	Pre	ipitation	n, in in	ches.	r day		Sky	•	etion	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind	Observers.
California—Cont'd.	. Inyo	2,728	5	68.4		97	10	40	28	43				0.0	2	21	9	0	8.	G. F. Marsh.
ong Valley	. Lassen	4,400	33	60.8	+ 4.0	85 98	9	31 54	13	45 32	0.63	- 0.07	0.51	0.0	2 2 1	13	8 9	9	sw.	A. G. Evans.
os Angeles	. Merced	121	23	69.1	- 4.9	95	1	55	41		0.25	+ 0.12	0.25	0.0	1	26	0	4	w.	U. S. Weather Bureau. Southern Pacific Co.
os Gatosytle Creek	Santa Clara	2,900	23	64.1	- 1.5	94	10	43	13	43	0.02	- 0.35	0.02	0.0	1	27	1	2	n.	F. H. McCullagh.
acdoel	. Siskiyou	4, 258	3	53.4		85	26	20	12	48	0.42		0.25	0.0	3	22	2	6	nw.	W. E. Anderson. B. V. L. Co.
adeline	. Lassen	5,270	1 6	53.8 63.9	******	81 92	11	24 35	14 12	50 44	0.91	******	0.50	0.0	3	18 22	8 7	4	w.	J. H. Williams. Butte County R. R. C.
agaliaammoth Tank	Butte	257	32	93.0	+ 3.0	119	3	70	20	44	0.35	+ 0.30	0.35	0.0	1	24	1	5	W.	Southern Pacific Co.
arysville	. Yuba	67 -185	39	68.4 85.2	- 6.4	95 109	11	46 62	28 7†	48	T. 0.00	- 0.29	T. 0.00	0.0	0	28 26	3	2	8.	Do. A. Lunsted.
enlo Park	San Mateo	64	32	62.7	- 1.4	88	9	46	13		0.06	- 0.22	0.06	0.0	1	28	0	2	ne.	Southern Pacific Co.
ercedill Creek (1)	Merced	173	36	70.2 63.2	- 3.5	92	10	54 38	15 12	28 40	0.27	+ 0.09	0.27	0.0	1 3	28 25	3	2 2	nw.	Santa Fe Co. Cal. Gas & Electric Co
ilton (near)	. Calaveras	660	19	70.0	- 1.5	86 96	1	38 47	2	36	0.34	- 0.08	0.19	0.0	3	29	1	0	nw.	J. H. Southwick.
odesto	Stanislaus		38	78.4	+ 3.7	98 99	1 1	61 52	4 15†	43	0.30	+ 0.11	0.30	0.0	0	27 21	0	9		Southern Pacific Co. Do.
ojaveokelumne Hill	Calaveras	1,550	17	69.4	+ 3.6	93	1	44	13	32	0.57	+ 0.03	0.31	0.0	2	26	0	4	*****	C. E. Prindle.
ono Ranchontague	. Ventura	2,450	22	64.6 56.8	-11.7	94 91	9 5	41 26	8 14	43 59	4.35	+ 0.48	4. 15 0. 60	0.0	2 2	24 21	0	9	w. n.	H. Lathrop. G. H. Chambers.
onterey	. Monterey	15	45	58.4	- 3.1	70	11†	50	19†		0.14	- 0.04	0.14	0.0	1	27	1	2	se.	Southern Pacific Co.
onterioonumental	Del Norte	4, 000	11 5	80. 4 60. 0	+10.4	96 86	23	64 33	30	28 40	0.58	- 0.21	0.00	0.0	5	24 28	6	0 3	nw.	John C. Knecht. G. F. Morgan.
ount Tamalpais	Marin	2,375	11	65.0	- 1.1	85	30	43	19	29 47	0.17	- 0.35 - 0.43	0.17	0.0	2	25	4	1	nw.	U. S. Weather Bureau.
apa Cityapa (S. H.)	Napado	20 60	33	60. 6 63. 0	- 3.0 - 0.6	93 92	9	38 43	13 13	44	0.13	- 0.43	0.13	0.0	1	14 26	1 2	15	s. sw.	Thomas Hull. W. H. Martin.
eedles	San Bernardino	477	18	84.8	+ 0.1	110	11	40	21	55	T.	- 0.14	T.	0.0	0	27	2	1		Santa Fe Co.
ellieevada City	San Diego	5, 350 2, 580	18	78. 9 63. 4	+ 2.8	88 96	21	38	28 13	41 54	0.44	+ 1.20	1.02	0.0	3	23	0	7	sw.	C. J. Bailey. S. W. Marsh.
ewcastle	Placer	970	17	******					****			******	*****	*****				****		George D. Kellog.
ewhall	Stanislaus	91	33 21	72.3 72.8	+ 0.8	112 96	9 3†	58 52	25+	42	0.00	-0.06 + 0.26	0.00	0.0	0 2	28 29	0	1	se. n.	Southern Pacific Co. E. S. Wangenheim.
mshew	Butte	2,500	6	64.2		- 90	5	36	13	40	1.10		1.10	0.0	1	26	1	3	8.	Cal. Gas & Electric Co
orth Bloomfield		3,200	13 6	67.5		97	11	39	15	46	1.70	******	0.80	0.0	3	24	2	4	nw.	W. G. Shand. G. H. Shinn.
kdale	Stanislaus	156	16	71.2	- 0.2	96	26	52	13†	****	0.29	+ 0.15	0.20	0.0	2	27	1	2	nw.	Southern Pacific Co.
kland eanside	San Diego	36	34	59.3 70.1	- 1.9	79 86	9	48 54	20†	28 23	0.05	- 0.32	0.03 0.05	0.0	2	14	11 18	5 6	W.	Chabot Observatory. H. D. Brodie.
ai Valley	Ventura	900	4	70.5	*******	109	9	37	8	61	4.18		4.10	0.0	6	20 25	10	0	sw.	W. H. Duncan,
landleans	Glenn	254 520	28 7	71.4 71.5	- 5.3	99 104	1	49	11†	43 53		+ 0.34	0.46	0.0	2 2	25	0	5	86.	W. W. Patch. Fred T. Hale.
oville (near)	Butte	250 213	26 19	70.4 69.5	- 3.4	96 99	9†	45 42	13 13	41 52	0.08	- 0.60	0.08	0.0	1	23 23	3 7	4	8.	E. D. Fairchild. Miss Hettie Boalt.
dm Springs	Riverside	584	21	87.2	-0.5 + 2.0	110	9	76	12†		T.	- 0.70 - 0.05	T.	0.0	0	27	2	1	8. W.	Southern Pacific Co.
sadena	Los Angeles	827 800	20 23	71.9 66.2	+ 2.3	104 105	9	45 35	8	50 59		-0.10 + 0.46	0.02	0.0	4 2	28 24	4	0 2	sw.	E. R. Sorver. Dr. F. W. Sawyer.
so Robles		190	14	60.6	- 2.6	95	10+	36	12	55	0.02	- 0.34	0.02	0.0	ī	18	12	ō	SW.	E. H. Parnell.
nstock Campacerville		3,750	21	65.8	+ 30	93	23	38	13	46	0.99	+ 0.37	0.81	0.0	2	24	4	2	sw.	Tuolumne W. P. Co. A. Baring'Gould.
int Lobos	San Francisco	250	17	56.3	$+3.0 \\ -1.3$	78	30	47	16†	25	0.07	- 0.50	0.07	0.0	1	4	9	17	W.	John Hyslop.
orterville	Marin	490 464	18 21	51.6 74.6	- 4.5 - 1.7	64 106	30	45	14 13	17 45	0.04	- 0.88	0.03	0.0	3 4	7 24	4	-	nw.	U. S. Weather Bureau. Harry E. Cowie.
incy	Plumas	3,400	15	56.4	- 0.6	86	41	20	1	62	2.00	-0.07 + 0.67	1.50	0.0	2	27 24	0	3	SW.	D. N. Rogers.
d Bluffdding	Tehama	307 552	33 35	71.0 71.8	-2.9 -2.2	96 93	9 2	49 50	13 13†	39	0.41	- 0.26 - 0.62 - 0.17	0.37	0.0	3 2	24 22	8		se. n.	U. S. Weather Bureau. L. F. Bassett.
dlands	San Bernardino	1,352	17	74.2	+ 2.1	106	9	47	26	53	0.20	- 9.17	0.20	0.0	1	24	4	2	w.	Paul W. Moore.
edleyalto (near)	Fresno San Bernardino	347 2, 250	10	71.8	- 0.3	103 104	9	42 53	15 7	49 38	1.04	+ 0.15	0.76	0.0	2	26 28	0		B. se.	Santa Fe Co. So. California Edison (
verside	Riverside	851	28	74.2	+ 2.1	110	9	45	21	90	0.00	- 0. To	0.00	0.0	0	26	4	0	w.	C. W. Barton.
ocklinohnerville	Placer	249 75	39	70.8 55.4	- 1.9	95 75	9† 19	47 38	14 5†	47 30	0. 99 T.	+ 0.81	0. 52 T.	0.0	0	27 25	0 3		se. n.	Southern Pacific Co. Dr. R. Callahan.
cramento (1)	Sacramento	71	33 57	67.2	- 1.9	93	1	45	13	39	0.20	- 0.16	0.18	0.0	2	28	0	2	S.	U. S. Weather Bureau.
ramento (2)	Napa	35 255	2	65.0 62.1	- 4.5	88 97	8	43 38		39 52	0.35	+ 0.21	0.16	0.0	3 2	28	0		8.	S. H. Gerrish. B. F. Kettlewell.
inas	Monterey	40	36	58.8	- 2.3	87	30	40	14	42	0.12	- 0.06	0.12	0.0	1	25	4	1	W.	Miss E. Ruth Abbott.
n Bernardino n Diego	San Bernardino	1, 054 93	18 39	73.9 67.8	+ 3.4 + 0.9	111 86	9 10	44 56	21	61 22	0.36	+ 0.24 + 0.11	0.36	0.0	1	28 25 20 22 12	10		sw.	Dr. A. K. Johnson. U. S. Weather Bureau.
n Francisco	San Francisco	207	39 39 17	57.6	- 1.7	82	30	48	1	31	0.05	- 0.22	0.04	0.0	2 0	12	10	8	W.	Do. E. T. Tanner.
n Jacinto n Jose	Santa Clara	1,550 95	17 35 15	75. 2 62. 0	+ 4.6	108	10	45	28 13	55 46	0.00	- 0.14 - 0.11	0.00	0.0	2	20 21	9 7		nw.	U. S. Weather Bureau.
n Leandro	Alameda	48	15 15					*****							2		9			E. B. Sanford. U. S. Weather Bureau.
n Luis Obispon Mateo	San Luis Obispo	201 22	36	63.8 63.8	$+2.3 \\ +0.1$	99 84	10 9†	42 52	13† .	45	0.05	+ 0.29 - 0.26	0.41 0.05	0.0	1	16 28	0	2	nw.	Southern Pacific Co.
n Miguel n Miguel Island	San Luis Obispo	616	23	72.4	+ 3.8	98	1		29			+ 0.29	0.45	0.0	1	21	6			Do. Capt. W. G. Waters.
nger	Santa Barbara	500 371	21	******	*******			*****			******	*******	******				****	***	*****	Southern Pacific Co.
nta Barbara	Santa Barbara	130	26 21	65.2	- 0.5	95	9	50 38			2.56 0.02	+ 2.34	2.36 0.02	0.0	3	13	13	4	e. nw.	George W. Russell. Santa Clara College.
nta Clara	Santa Cruz	90 20	37	62.3 59.8	- 0.3 - 3.3	93 91	10 30	40	13	49	0.02	- 0.22 - 0.48	0.02	0.0	2	28 23	0	7	W.	W. R. Springer.
nta Magaritanta Maria	San Luis Obispo	996 220	21 22 25	73.3	+ 7.4	96 85 88	10	53	7 .		0.65	$ \begin{array}{r} -0.48 \\ +0.31 \\ +0.45 \end{array} $	0.65 0.55	0.0	3 1 2 1 2	13 15	12	5	sw. w.	Southern Pacific Co. L. E. Blochman.
nta Monica	Los Angeles	110	25	65. 6 60. 8	$\frac{+1.6}{-7.0}$	88	12 30	50	17†	30	T.	- 0.12	T.	0.0	0	20	7 1 5	9	W.	N. D. Ingham.
nta Rosa	Sonoma	181	21 24	61.8	- 2.4	93	9†	37				-0.39 + 1.31	0.01	0.0	1 2	24 24	5	1	sw.	M. L. McDonald, jr. Southern Pacific. Co
asta	Shasta	311 1, 049	14	75.4 71.8	- 2.0 - 3.4	93 101	28	40	121	55	T.	- 1.16	1.47 T.	0.0	0	29	6	0	nw.	Dr. T. J. Edgecomb.
rra Madre	Los Angeles	1,400 5,000	13	72.1	+ 2.1	101	9	50	8	41	T.	- 0.41	T.	0.0	0	25	6	3	8.	Mrs. A. C. Gregory. C. D. Johnson.
son	Siakiyou	3,555	21	55.8 55.2	- 3.0	88 85	25	26 29	13	62 45	0.90	- 0.30	0.70 0.32	0.0	4	23 22	0	8	sw. n.	Southern Pacific Co.
ledad utheast Farallon	Montorey	188	36	71.8	+ 6.9	85	81	59	24 .		0.25	-0.30 + 0.17	0.15	0.0	2	25	2	3	n. nw.	Do. U. S. Weather Bureau.
nora	Tuolumne	1,825	22	67.6n		59 91	20	48		36	0.01	+ 0.32	0.01	0.0	3				nw.	Charles P. Jones.
ockton (S. H.)	Dutte		6 39	64.4		87	25	44	19				1.25	0.0	2	16	12	2	80.	Butte County R. R. Co State Hospital.
orey	Madera	296	10	71.0	- 2.2 - 0.3	92 100	10	45 43		36 49	0. 75	+ 0.26 + 0.66	0.24	0.0	1	27 28	1 0		nw.	Santa Fe Co.
isun	Solano	20	00																	Southern Pacific Co.

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			d. yrs	Temp	erature,	in de	gree	. Fah	renn	eit.	Prec	ipitation	, in ir	nenes.	p g		Sky.		etion	
Stations.	Counties.	Elevation, feet.	Length of record	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of	Number of part- ly eloudy days.	Number of cloudy days.	Prevailing wind.	Observers.
California—Cont'd. Summit Susanville Tamarack Tehachapi Tehachapi Three Rivers. Cowle.	Tehama	3, 964 220 870 3, 704	37 21 4 33 39	57. 8 59. 7 49. 3 69. 2 73. 0 71. 8 61. 6	+ 4.1 - 1.9 + 3.1 - 1.3	86 86 74 88 93 101 87	28 9 5 9 8 1 5†	32 32 28 58 52 40 37	21 13 13 36 30 13 13	48 46 37 47 42	2. 82 1. 06 2. 80 0. 75 0. 40 0. 34 2. 14	+ 2.60 + 0.32 + 0.66 + 0.14 + 1.11	2. 03 0. 75 1. 60 0. 75 0. 40 0. 22 1. 77	0, 0 0, 0 0, 0 0, 0 0, 0 0, 0	3 2 3 1 1 2 2 2	27 21 19 28 21 23	0 8 6	3 1 5 2 3 4	W. W. SW. S. SW.	Southern Pacific Co. James Branham. William Bennett. Southern Pacific Co. Do. E. D. Barton. Southern Pacific Co. Do.
racy. kiah pland pper Lake acaville alley Springs	San Joaquin Mendocino San Bernardino Lake Solane Calveras Tulare	1, 750 1, 350 175 673	30 17 13 25 22 21 22	65.8 71.4 65.5 67.3 69.9	+ 6.1 + 1.7 - 1.6 - 3.9 - 2.1	98 105 94 98 96	1 9 9 9	35 44 37 78 54	16 28 13 13 12	55 48 45 50	T. T. T. 0.05 0.40	- 0.87 - 0.26 - 0.41 - 0.25 - 0.01	T. T. T. 0.04 0.30	0.0 0.0 0.0 0.0 0.0	0 0 0 2 2 2	22 22 25 27 24	5 6 4 2 4	3 2 1 1 2	nw. w. nw. sw. nw.	Dr. George McGowen. A. P. Harwood. C. M. Hammond. G. O. Coburn. Southern Pacific Co. Santa Fe Co.
Varing Springs	San Diego Kern. Santa Cruz Stanislaus Yuba Glenn. Mariposa	3, 165 336 23 90 84 136	2 10 14 21 23 31 6	70. 2 73. 9 87. 4 72. 8 67. 7 68. 8 60. 2	+ 0.6 - 2.9 - 1.1 - 2.6 - 6.8	99 93 86 95 92 93	9 9 9 10†	45 49 34 52 42 44 29	28 15 13 13 13 13 13	42 40 46 42 41 51	0, 73 0, 85 0, 21 0, 23 0, 25 0, 48 1, 90	+ 0.54 + 0.05 0.00 - 0.26 + 0.27	0.73 0.85 0.11 0.23 0.20 0.48 1.12	0.0 0.0 0.0 0.0 0.0 0.0 0.0	1 1 2 1 2 1 2 1 2	29 27 9 28 25 27 21	1 0 15 0 3 1	0 3 6 2 2 2 2 2 2	80. 8. 8. 8.	Mrs. E. F. Sanford. Santa Fe Co. Spreckels Sugar Co. Southern Pacific Co. Wm. Lumbard. M. T. Harrington, jr. C. W. Tucker.

Table 2.—Daily precipitation for September, 1910. District No. 11, California.

															D	ay o	of me	onth														
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
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Table 2.—Daily precipitation for September, 1910. District No. 11—Continued.

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Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
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Table 2.—Daily precipitation for September, 1910. District No. 11—Continued.

Stations.	River basins.	_							_						101	y 01	· mo	nth.		-					-			-			-	-
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orth Bloomfield	San Joaquin						1,12.2								70				****													
orth Fork	San Joaquin Coast		. 20			****		****				****		. 80	. 70	****				× 6 4 6	****				****	****	****	****	****	****		- * * *
orth Lakeportakdale	San Joaquin														T.	. 20	.09								****				* * * *			
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n Miguel Island															****																	
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Table 2.—Daily precipitation for September, 1910. District No. 11—Continued.

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Stations	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Tota
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tura	. Coast																				1	1	1		1		1						
alia	. San Joaquin		2000	1000		22.0		1.00		. 3.5.								1															0
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verville	. Sacramento	*** - * *		12473	2.4.4.9	188	1000			2333											. 15	9		100									
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emite	. San Joaquin	*** - * *	4000		12.53													1		1.	1	100			1								2.8

0.03 0.05 0.40 0.73 0.85 0.21 0.19 1.10 0.25 0.25 0.25 0.48 1.31

TABLE 3.—Maximum and minimum temperatures at selected stations, September, 1910. District No. 11, California.

														Califo	ornia.												
	Lakeview, Oreg.		Alturas.		Barstow.		Branscomb.		Brawley.		Colusa.		Eureka.		Fresno.		Independence.		Los Angeles.	Mount Tomal	ā	1	Nevada City.		Porterville.		Red Bluff.
Date	Max. Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Mas.	Min.	Max.	Min.	Max.	Mir
2 3 4		84 83 81	35 41 35 34 27	106 105 101 101 103	70 65 65 60 60	87 84 75 74 73	50 47 44 43 40	109 108 102 102 104	81 81 73 69 66	91 87 88 89 90	56 55 51 55 56	59 57 53 58 58	51 49 50 50 47	102 91 89 93 98	61 65 55 57 60	92 81 86 88 90	55 57 49 53 61	91 84 76 74 70	64 62 60 58 57	84 73 67 78 80	69 44 44 44 59 65	93 96 85 96 92	43 42 43 44 44	106 97 94 95 100	59 64 64 53 57	92 91 87 91 92	61 62 54 57 56
8 9		78 81 86	36 30 31 29 36	103 105 105 111 111	60 55 50 60 60	76 74 72 87 70	42 41 37 44 42	104 103 107 111 108	65 63 68 70 72	87 81 84 91 91	54 51 54 60 59	58 57 66 57 60	48 48 44 50 47	97 94 93 96 100	59 58 56 57 61	90 92 88 94 96	54 49 50 51 57	68 75 79 94 98	57 56 54 63 67	68 69 74 82 82	55 56 55 66 67	95 88 88 93 91	45 44 41 40 41	100 97 93 101 103	58 59 54 60 59	83 82 86 96 90	59 55 54 59 60
2 3 4		73 72	39 24 24 20 53	105 100 100 100 103	65 63 68 70 70	70 77 71 72 78	40 37 37 39 38	108 102 95 97 98	80 73 71 71 71 72	85 80 71 80 74	60 51 43 49 57	57 62 60 52 54	48 50 46 44 47	96 80 84 70 75	62 51 48 57 60	90 80 80 80 77	62 59 62 58 57	83 82 89 90 81	61 62 62 72 66	70 54 65 72 66	53 45 44 55 58	76 69 77 73 63	46 36 33 35 56	98 88 85 85 81	54 52 47 61 63	81 70 76 84 70	62 52 49 50 60
7 8 9		68 65 64	47 33 42 35 35	99 103 102 99 99	70 65 58 58 58	74 70 72 76 80	36 39 41 42 44	103 105 103 104 106	73 72 79 76 86	78 79 81 76 80	53 58 52 50 51	62 59 59 60 59	50 46 49 50 52	84 86 87 83 87	68 58 56 51 53	86 88 88 84 83	56 50 54 60 46	79 84 86 82 83	63 60 56 56 56 59	56 75 65 61 70	52 55 52 43 50	76 82 73 74 78	52 34 41 40 36	85 90 93 88 90	64 58 54 48 53	78 82 76 72 77	60 53 60 57 57
1		75 83 80	31 40 37 38 36	101 101 100 98 98	58 58 57 57 54	80 85 87 82 80	48 48 50 47 48	104 104 102 104 103	73 61 61 62 63	83 89 90 89 84	53 59 58 59 58	55 55 53 55 57	52 49 49 49 46	89 90 94 94 92	57 58 62 61 61	84 82 84 85 83	54 51 54 52 54	85 78 76 76 74	58 55 57 58 57	75 79 83 78 74	60 65 68 66 60	88 86 87 87 87	41 45 47 47 46	91 97 97 97 97	51 55 57 58 56	85 91 91 88 89	56 63 65 62 61
8 8 9		82 82 76 80 82	38 37 35 33 33	101 100 103 96 96	56 55 55 52 60	84 87 87 82 81	44 46 45 39 42	100 101 102 96	61 60 60	85 82 76 90 89	51 51 48 52 55	54 53 58 58 60	49 49 50 50 53	90 91 85 85 90	55 58 54 53 50	84 84 83 83 84	49 50 49 53 48	76 75 73 87 90	58 58 58 55 63	8) 71 64 76 85	64 57 55 60 70	85 85 81 88 92	45 44 43 40 43	88 88 88 89 93	54 51 54 53 54	89 86 79 93 90	59 58 53 54 59
Ins		76. 9	34.8	101.8	60.4	78. 2	42.7	103.3=	69.80	84.3	54.0	57.5	48.7	89.3	57.7	85.6	53.8	81.3	59.7	72.9	57.1	84.1	42.7	93.1	56.2	84.6	57.5

												C	aliforn	ia.												
Date.		Redlands.		Sacramento.		San Diego.		San Francisco.		San Jose.	100	Obispo.		Santa Barbara.		Santa Rosa.		Sisson.		Stockton.		Summit.		Susanville.		Yosemite.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min
1	91 88 84	62 63 62 54 54	93 83 83 89 88	57 52 50 50 55	81 74 73 66 69	37 66 64 62 32	65 59 62 58 58	48 49 53 50 50	85 78 75 74 75	44 48 46 53 40	62 72 70 69 70	48 51 52 52 52 52	83 72 69 69 65	57 57 58 54 57	83 73 75 75 75 73	46 47 53 51 48	76 73 79 81 81	41 40 41 38 46	90 84 78 84 84	54 54 51 50 54	74 80 75 84 78	45 48 45 42 41	84 81 83 82 86	45 40 45 48 41	94 92 83 86 90	45 42 48 46 44
9	92	53 48 48 64 64	74 80 88 92 92	50 50 53 54 59	68 69 71 80 86	60 59 59 62 64	58 60 70 79 74	50 50 51 56 54	76 74 79 88 90	46 47 43 45 44	67 68 84 98 99	52 50 48 53 54	60 67 72 75 86	56 56 54 50 57	67 74 85 93 93	49 48 38 43 40	72 70 64 80 79	40 39 39 42 41	84 79 84 90 92	50 49 51 56 56	77 74 78 80 81	47 47 47 39 28	80 78 81 86 83	54 48 44 40 46	91 91 96 90 89	45 41 39 29 38
1 2 3 4 5	95 91 93 96 86	59 52 62 67 62	78 69 74 76 71	52 48 45 50 60	70 75 81 82 76	63 62 66 72 67	62 60 69 80 65	51 59 52 53 49	73 67 75 73 70	45 44 40 46 54	85 67 80 84 76	48 48 42 59 59	77 74 78 81 75	52 59 51 64 63	80 70 77 87 78	50 38 41 37 55	64 62 64 70 72	33 30 29 33 42	80 78 80 78 76	58 49 45 51 60	74 67 67 59 54	57 41 34 35 46	69 68 69 72 68	43 34 32 34 54	86 70 69 65 65	37 36 29 40 40
6	92 98 98 95 93	59 60 58 55 53	79 80 77 75 82	49 49 53 50 51	72 71 72 74 74	66 64 60 62 58	69 69 63 62 69	50 53 51 52 53	73 82 72 75 77	48 42 43 50 48	74 84 76 70 78	53 56 50 50 46	75 82 79 75 77	62 60 58 57 53	81 82 74 67 78	48 41 42 51 47	67 62 62 63 65	35 38 38 39 43	76 78 74 75 85	52 52 51 49 50	59 70 71 67 70	41 43 41 40 35	67 71 72 68 66	50 41 50 42 40	75 72 71 73 70	58 41 40 38 35
1 2 3 4 5	93 92 90 92 86	53 54 54 52 50	84 101 91 83 83	53 56 58 53 49	73 72 72 72 73 70	56 61 62 61 61	68 66 59 56 56	51 48 49 50 50	80 80 77 74 72	49 50 51 52 51	85 87 73 72 68	46 49 49 49	78 70 68 67 64	52 55 58 57 57	84 84 78 70 69	44 44 48 48 49	60 72 75 75 85	35 32 37 37 40	87 87 86 84 79	56 57 56 54 52	71 71 81 83 73	32 41 40 41 39	72 72 76 80 78	41 42 43 48 44	74 76 78 80 78	28 40 41 43 40
6	86 87 86 95 89	47 50 48 50 50	88 75 77 87 90	49 49 47 49 60	70 70 69 74 76	62 61 59 58 63	57 54 58 72 82	49 49 50 50 51	73 68 70 81 89	51 50 51 50 47	68 66 67 84 95	50 50 50 47 50	63 64 67 72 88	58 57 56 56 56 57	74 63 64 88 93	48 48 49 46 43	79 80 75 74 79	41 40 39 39 41	79 73 74 83 88	49 46 47 54	84 80 86 75 79	41 41 38 38 40	77 78 75 74 80	45 46 43 40 43	79 80 78 79 78	40 39 41 39 40
14	92.3	56.0	82.4	52.0	73.4	62.5	64.6	50.7	76.5	47.6	77.3	50.4	73.7	56.6	77.7	46.0	72.2	38.3	81.6	52.1	74.1	41.4	75.8	43, 5	79.7	40, 6

Climatological Data for September, 1910. DISTRICT No. 12, COLUMBIA VALLEY.

EDWARD A. BRAIS, District Editor.

GENERAL SUMMARY.

Although the precipitation for September, 1910, averaged 0.42 inch below normal, the preceding droughty condition was partially relieved by moderate rains in nearly every locality of District No. 12. The rainfall was not heavy enough to seriously interfere with harvest work, but in most places it was sufficient to soften the ground for fall plowing, which made good progress. All forest fires were extinguished by the middle of the month and the weather was favorable for every branch of industry, except transportation on the rivers, which was seriously hampered by unusually low water

TEMPERATURES.

The mean temperature, as determined from the records of 229 stations, was 57.3°, which is 0.5° below the district average. The mean temperatures ranged between 68.0° at Zindel, in extreme southeastern Washington, and 46.1° at Ovando, in west-central Montana. The warmest sections were in the low-lands of the interior, particularly the immediate valleys of the Columbia and the Snake rivers, where mean temperatures of 60° to 65° occurred. The coolest sections were the elevated portions in the interior, mean temperatures of 46° to 50° occurring at some stations in western Montana and in central Idaho, above the 3,500-foot level.

The highest temperatures occurred generally during the 2d decade, and the lowest were usually recorded from the 24th to the 26th, at which time frost formed over eastern sections, but no damage to unharvested fruit or staple vegetation was reported. The highest recorded temperature was 98° at Glenns Ferry, Idaho, elevation 2,569 feet, on the 19th, and at Zindel, Wash., elevation 715 feet, on the 14th. The lowest temperature was 12° at Chesterfield, Idaho, elevation 5,424 feet, on the 26th.

PRECIPITATION.

The average precipitation, as determined from the records of 340 stations, was 1.16 inch, which is 0.42 inch below the normal for the district. The heaviest rainfall occurred along the Washington and northern Oregon coasts, and in western Montana, but the only departures above normal precipitation were in southwestern, south-central, and eastern Washington, and in the western counties of Montana, Idaho, and Wyoming.

western counties of Montana, Idaho, and Wyoming.

Over the northern portion of the district the rainfall was quite well distributed throughout the month, but in Oregon and southern Idaho the greater portion of the precipitation occurred from the 13th to the 21st.

The greatest monthly precipitation was 5.52 inches at Quiniault, Wash., in the coast drainage area, and the least was 0.02 inch at Blalock, Oreg., in the Columbia River Valley, and also at Gold Beach, Oreg., in the Rogue River Valley. The greatest 24-hour rainfall was 2.76 inches on the 29th at Quiniault, Wash., and the second greatest was 2.10 inches on the 17th at Bay City, Oreg., in the coast drainage area.

THE RIVERS.

The Columbia River and its feeders were unusually low during the greater part of the month, and in many cases the mean stages were the lowest ever recorded for September. The mean stages at all stations were uniformly lower than those of the preceding month.

The Columbia River averaged 3.0 feet below the normal for the month, being 1.6 foot below at Vancouver, 3.5 feet below at The Dalles, and 2.8 feet below at Wenatchee. At Cascade Locks, with a record of 14 years, the present September mean stage of 2.3 feet is the lowest mean ever recorded. The low stage of the river enabled the dredges to make rapid progress in their work of deepening the channel and also aided in the location of sand bars and other obstructions that are most in need of attention.

The Willamette River fell steadily throughout the month with the exception of the last few days, when a slight rise was reported from most of the stations. The mean stage was below normal at all stations, and ranged between 0.2 foot below at Wilsonville and 0.9 foot below at Portland. The unusually low stage of the upper Willamette has seriously interfered with navigation for the last three months.

The Snake River averaged 0.8 foot below the September normal, and was 0.8 foot lower than the mean stage for August; the mean stage at Lewiston, Idaho, being 0.2 foot above the zero of the gage.

MISCELLANEOUS.

The prevailing winds were from the west. The highest wind recorded occurred at North Head, Wash., where a velocity of 52 miles per hour from the south occurred on the 29th. The average hourly velocity for the month at that station was 11.6 miles. The percentage of possible sunshine was 64 at Spokane, 42 at Seattle, and 39 at Portland. Hail was recorded at several stations in western Montana on the 16th and 24th. Thunderstorms were unusually numerous in the portion of the district lying east of the Cascade Mountains, occurring principally on the 16th, 17th, 19th, and 20th, some of the storms being very severe. Killing frosts occurred in many places as early as the 7th.

THE FORT HALL IRRIGATION PROJECT, IDAHO.

By John J. Granville, Superintendent of Irrigation, U. S. Indian Service.

The lands to be irrigated under this project lie at an elevation of 4,500 feet in Bingham and Bannock counties between ranges 33 and 35 east, and townships 3 and 6 south, of Boise Meridian. The soil, with the exception of some 14,000 acres of sand lying in the north third of the area to be irrigated, and extending in an easterly and westerly direction entirely through the tract, is a volcanic ash covered with a heavy growth of sage brush, and capable, when supplied with water, of raising excellent crops of all kinds, except the tenderest vegetables and fruits.

The area to be irrigated contains approximately 50,000 acres exclusive of the sand belt, the water for which will be supplied principally by the construction of a dam and the creation of a reservoir on the Blackfoot River, in ranges 41 and 42 east, townships 5 and 6 south, and in part from the Snake River.

The dam site and reservoir area present great natural advantages.

The Blackfoot River, for a distance of about 16 miles, flows through a marsh, some 5 miles in width at its broadest point, before reaching the site at which the dam is being constructed, and has an average fall of about 8 inches per mile. At the site of the dam the river enters a narrow basalt gorge with nearly vertical walls on both sides, those on the south side rising to a height of about 70 feet and on the north to about 40 feet. The width of the canyon at this point is 120 feet at the water line and 250 feet at the crest of the dam, which is 40 feet above the water. The construction of this dam, with the bottom of the spillway 8 feet below the crest, or 32 feet above the water surface, will impound approximately 200,000 acre-feet.

Bed rock was found extending entirely across the canyon at a depth of about 4 feet below the bed of the stream or 6 feet below the water surface.

The dam itself is the loose-rock and hydraulic-filled type, and an ample supply of rock was found for the construction of the

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spillway and take-off tunnel, for the rock-filled portion, and a surface covering at the north end of the dam, 10 to 15 feet in

depth, was used for the hydraulic fill.

The drainage area above the dam is 666 square miles and from the meager data at hand it has been estimated that the average annual run-off will be 163,000 acre-feet. In addition to the drainage from the Blackfoot Basin, the flood water rights from John Grays Lake (which lies but a few miles northeasterly from the Blackfoot reservoir), having an estimated flood discharge of 50,000 acre-feet, have been secured.

The reservoir lies at an elevation of 6,200 feet above sea level, surrounded on all sides by rather high hills and mountains,

having generally long easy slopes.

The Blackfoot River, following a tortuous course between the mountains, comes from a southeasterly direction from near the State line to where it enters the reservoir, and it is from this source that most of the water will be derived.

On the lower slopes of the mountains and hills there is a scant growth of timber, but toward the top of the peaks considerable

quaking aspen and pine may be found.

The winters are long and cold and the snowfall is heavy. Along the valleys and on the open stretches the snow often attains a depth of 4 feet on the level, while on the mountains and in the gulches, especially in the vicinity of the Caribou Mountains, the snow attains to great depths.

PAYETTE-BOISE PROJECT, IDAHO.

By F. W. Hanna, Project Engineer, U. S. Reclamation Service.
HISTORY.

Preliminary investigations were begun by the Reclamation Service on the Payette-Boise Project in 1903, and in the month of December of that year steps were taken by some of the leading citizens of the Payette and Boise valleys toward a preliminary organization of the landowners. On March 4, 1904, a committee of this organization addressed a communication to the Secretary of the Interior setting forth the general irrigation conditions in the valleys, agreeing to form a permanent organization of the landholders upon the approval of the project. This communication was printed as Senate Document 247 and was referred to the Director of the United States Geological Survey, who recommended to the Secretary of the Interior that surveys and examinations of the project be continued. Following this recommendation a permanent organization of the landholders of the valley was formed on August 10, 1904, under the title of the Payette-Boise Water Users' Association. In pursuance of the recommendations of the Director of the Geological Survey to the Secretary of the Interior, general investigations of the project were continued and were brought to a conclusion during the field season of 1904.

On March 27, 1905, favorable recommendations having been made as to the feasibility of the project, the Secretary of the Interior approved the project and set aside \$1,300,000 for use in starting work. Immediately following the approval of the project negotiations were instituted for the transfer to the Reclamation Service of the New York Canal and for the purchase of the lands lying within the site of the Deer Flat reservoir, and general surveys relating to the south side unit of the project were pushed to completion by the close of 1905. On February 1, 1906, bids were opened for the construction of the Boise River diversion dam, the main south side canal to partial capacity leading from this dam to the Deer Flat reservoir and for the upper Deer Flat and lower Deer Flat embankments.

In March, 1908, excavation of the canals and laterals of the distribution system was begun under the cooperative plan with the Payette-Boise Water Users' Association, and the construction of the structures thereon was undertaken by force account, on which basis the work proceeded until September 10, 1909. Subsequent to this date, construction of the structures on the

distribution system has been carried on by force account as before and the excavation of the laterals has been done by the settlers by means of small contracts.

In the original undertaking of the project, lands lying north of the Boise River in the Boise and Payette valleys were comprehended in the limits of the project, but no work has been done on this portion of the project, except of a very preliminary investigative character. Recently, there has been formed what is known as the Black Rock Canyon Irrigation District, comprising the settlers of this portion of the project for the purpose of taking up the construction of an irrigation system for all the lands originally included in the north side portion of the Payette-Boise Project.

LOCATION AND CLIMATIC CONDITIONS.

The Payette-Boise Project is located in the southwestern part of Idaho, in the valleys of the Snake and Boise rivers, in Ada and Canyon counties. The average elevation of this irrigable area above sea level is 2,500 feet, the average rainfall is about 13 inches, and the range of extreme temperatures is from 100° to -28° F. The project is served by the Oregon Short Line, the Boise, Nampa and Owyhee, and the Idaho Northern railroads, and by the Boise Valley and the Boise and Interurban electric lines, the principal towns on the project being Boise, Nampa, and Caldwell.

IRRIGABLE LANDS.

The present Payette-Boise Project contains 243,000 acres of irrigable land, 164,000 of which are new lands and 79,000 of which are old lands, consisting of 18,000 acres under the old New York Canal, 25,000 under the Ridenbaugh Canal in the Nampa-Meridian Irrigation District, and 36,000 acres in the Pioneer Irrigation District. Of these lands 85,820 acres are entered subject to the reclamation act, 30,059 acres are State lands, and 127,130 acres are private lands. The soil consists, generally, of loam and sandy loam and is highly productive in character, being adapted to the economical production of alfalfa, clover, timothy, small grains, sugar beets, hardy varieties of apples, prunes, and small fruits.

IRRIGATION DISTRICTS AND NEW YORK CANAL COMPANY.

Reference has already been made to the "old lands" of the project and a word of explanation as to what is meant by this expression will be in place. Within the limits of the Payette-Boise Project and forming a part thereof are two irrigation districts and the New York Canal Company lands. These organizations consist of the Pioneer Irrigation District, controlling the Phyllis and Caldwell canals in position to cover 36,000 acres now irrigated; the Nampa-Meridian Irrigation District, controlling the Ridenbaugh Canal in position to cover 25,000 acres now irrigated and 30,000 acres of new land ultimately to be covered by it through feeding from the main south side canal; and the New York Canal Company lands, comprising 18,000 acres under irrigation lying under the main south side canal. All of these lands have adequate flood water rights, but are mainly signed up with the Payette-Boise Water Users' Association to receive stored water from the Payette-Boise Project.

WATER SUPPLY.

The water supply for the Payette-Boise Project is derived from the Boise River, comprising a watershed of approximately 2,610 square miles, with an average elevation above sea level of approximately 5,000 feet, on which the annual rainfall is about 25 inches. The maximum run-off of the Boise River is about 3,000,000 acre-feet, the mean about 2,000,000 acre-feet, and the minimum about 1,000,000 acre-feet per annum. The flood season in the Boise River generally covers the months of March, April, May, June, and a porion of July. During the latter part of July and the remainder of the irrigation season, the normal flow of the river has to be supplemented with stored water for the lands of the project. The duty of water for the project has

been tentatively placed at 2½ acre-feet per acre per annum, measured on the land. There are prior appropriations of water from the river for about 130,000 acres of land under cultivation and the Payette-Boise project has appropriations succeeding these rights.

DESCRIPTION OF IRRIGATION PLANS.

The project contemplates the construction of storage reservoirs on the headwaters of the Boise River, the Deer Flat reservoir near Nampa and Caldwell, a diversion dam on the Boise River at a point about 8 miles above Boise, diverting water on the south side of the river into an inlet, and distributing canal supplying the Deer Flat reservoir and covering lands on the south side of the Boise River in the Boise and Snake river valleys. This dam also diverts water into a small canal at its right extremity, supplying a small area of land lying north of the Boise River above Boise. The storage reservoirs on the Boise River are under investigation, Deer Flat reservoir is practically completed, the Boise River diversion dam is completed, and the distributing system, including the main canals, is well under way.

It is estimated that from 150,000 to 200,000 acre-feet of water will have to be stored on the headwaters of the Boise River, depending upon the ultimate decreed duty of water in the Boise Valley. The Boise River Basin is not well adapted to storage development, having narrow channels, very steep gradients, and, as a rule, ineconomical dam sites. There have been selected for investigation seven reservoir sites on the Boise River and its tributaries that are designated and located as follows: Hellgate on Boise River, Twin Springs and Rossi on North Fork of Boise River, Alexander on Middle Fork of Boise River, Joy, Casey, and Bascum on South Fork of Boise River, and Grimes on Grimes Creek, and borings are now in progress on some of the dam sites.



Fig. 1.—Upstream face of Boise River Dam. Payette-Boise Project.

BOISE RIVER DIVERSION DAM.

The Boise River diversion dam, located about 8 miles above Boise on the Boise River, is of the cyclopean masonry weir type, has a maximum height of 45 feet, and a length of crest, including the logway, of 246 feet. This structure serves the purpose of diversion, raising water in the Boise River to the elevation of the intakes of the penitentiary and main south side canals. It was constructed under contract by the Utah Fireproofing Company, work having been started in March, 1906, and completed in October, 1908. In the spring of 1909 the apron of the dam was badly damaged by a drive of logs passing over the spillway on account of the giving way of the log boom. The work of repair-

ing the apron, together with the placing of additional riprap below the dam, was done in the fall of 1909.



Fig. 2.—Spillway Boise River Dam at flood stage. Payette-Boise Project.

MAIN SOUTH SIDE CANAL.

The Main South Side Canal begins at the Boise River dam and extends in a southwesterly direction for a distance of about 40.6 miles, the first 23.6 miles of the canal runs over bench lands south of Boise to its intersection with Indian Creek. At this point the waters of the canal are discharged into Indian Creek and flow for a distance of about 9 miles, where they are diverted from this stream by means of a dam and head gates into a second stretch of the main canal 8 miles in length, terminating in Deer Flat reservoir. The function of the canal is to supply lands lying directly under it and to feed the Ridenbaugh Canal and the Deer Flat reservoir. This canal is ultimately to have a capacity of 2,500 second-feet, in addition to the old New York Canal rights, requiring a bottom width in earth sections of 70 feet and a height of bank above canal grade of 12 feet. Under the original contracts, on account of insufficient funds for its immediate completion, the canal was constructed with a bottom width of 40 feet throughout its entire length, with here and there short stretches excavated to a bottom width of 70 feet. The earthwork of the first division was constructed under contract by Wm. H. Thompson in 1906, 1907, and 1908. The earthwork of the second section and practically all of the structures on the canal were constructed under contract by Page & Brinton in 1906, 1907, and 1908. The earthwork of the third section was constructed under contract by Conway & Wilhite in 1906, 1907, and 1908. On November 1, 1909, there were lined with concrete approximately 24,600 linear feet of the canal, and it is proposed to line an additional 7,000 feet for the purpose of preventing excessive seepage and liabilities of breaks and to obtain capacity. Eleven checks for the purpose of controlling the canal velocity and assisting in getting the water out of the canal during low water were also installed in the fall of 1909. Bids were opened on July 8, 1910, and a contract was awarded to W. J. Hoy Company for enlarging to a 70-foot bottom width all of the portions requiring enlarging from the dam to Indian Creek, except a small stretch that it is proposed to enlarge during the coming fall by force account. This work is to be completed by April 1, 1912. The stretch of canal from Indian Creek diverting works to the Deer Flat reservoir has sufficient capacity without further enlargement.

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DISTRIBUTION SYSTEM FROM MAIN SOUTH SIDE CANAL.

The new lands served directly by the Main South Side Canal total approximately 108,400 acres, about 30,000 acres of which lie under the Ridenbaugh Canal. This distribution system is in condition to supply water to about 70 per cent of the lands under it.

DEER FLAT RESERVOIR.

The Deer Flat reservoir lies in a natural depression situated southwest of Nampa and has a capacity, as now constructed, of 186,000 acre-feet of water, 170,000 of which are available for irrigation and submerges an area of approximately 9,250 acres. It is controlled by two large earthen embankments already constructed and a small embankment and dike yet to be built. The upper Deer Flat embankment, located 4 miles west of Nampa, has a maximum height of 70 feet, a length of crest of 4,000 feet, and contains approximately 932,200 cubic yards of material. This work was done by force account, having been begun in 1906 and finished in 1908. Owing to the appearance of seepage water below the upper Deer Flat embankment, improvements were begun on this structure on June 4, 1909. These improvements consisted of placing a suitably drained gravel blanket, about 200 feet wide and 1,000 feet long, over the area immediately below the embankment, driving the sheet piling along the lower edge of this blanket and installing a drain beneath this blanket immediately above the line of piling for conducting the accumulated seepage water into an open drain. These improvements were completed during August, 1909. It is proposed yet to place additional protection on the water slope against wave action. The lower Deer Flat embankment, situated 5 miles south and 2 miles west of Caldwell, has a maximum height of 40 feet, a length of crest of 7,200 feet, and contains approximately 936,600 cubic yards of material. This embankment was constructed by contract by Hubbard & Carlson. It was begun in 1906 and completed in the spring of 1908. Additional protection on the water slope against wave action is also to be provided for this embankment.

DISTRIBUTION SYSTEM FROM DEER FLAT RESERVOIR.

The canal system from the Deer Flat reservoir may be separated into canals drawing water from the reservoir at the upper Deer Flat embankment and that drawing water therefrom at the lower Deer Flat embankment. The canals from the upper embankment cover approximately 6,600 acres of new land, and the larger of the two canals is designed to supply the Pioneer Irrigation District, containing about 36,000 acres of land, with stored water during the latter part of the irrigation season. The Deer Flat Low Line Canal, taking water from the reservoir at the lower Deer Flat embankment, covers approximately 49,000 acres of land lying south and west of Caldwell and has a total length of 35 miles. Of the area of new lands served by the Deer Flat reservoir about 45 per cent are in condition to receive water at the present time.

TELEPHONE SYSTEM.

Work was begun during March, 1910, on a telephone system for use in the operation of the canal system and the main trunk lines of this telephone system are now completed. Contracts were entered into with two private companies, permitting the use of the poles of their systems for the lines of the Reclamation Service. About 110 miles of metallic circuit have been installed on government pole lines and 32 miles of such circuit on the pole lines of private companies. The system, as now constructed, connects the Boise office with the offices of the various water masters and the whole system is about half completed.

SETTLEMENT.

Practically all of the public lands on the project have been entered and nearly all entries have been conformed to farm unit plats. Chances for additional settlers to obtain land, there-

fore, lie in the subdivision and disposal of private holdings and of homestead entries under the assignment law.

OPERATION AND MAINTENANCE.

The canals of the system ready for carrying water were opened during the irrigation season of 1909, and were operated during that season and during the season of 1910. During 1909 water was delivered to approximately 22,000 acres of land, 18,000 of which were old lands lying under the old New York Canal and 4,000 of which were new lands. In 1910 the total area irrigated was approximately 30,000 acres, including the old New York Canal lands and 12,000 acres of new lands. For the condition of the water supply, which is not yet completed, crop yields have been excellent.

FROST PREVENTION WORK IN THE ROGUE RIVER VAL-LEY, OREG., DURING THE SPRING OF 1910.

By P. J. O'Gara, Scientific Assistant, Fruit-Disease Investigations, Bureau of Plant Industry.

The work of frost prevention during the past season of spring frosts has been carried on most successfully. The scope of the work has been such as to include practically all the better orchards lying on the valley floor, and the demonstrations can not be considered in any other light than being entirely practical. The experimental work carried on in only a few orchards three seasons ago has been taken up and extended so that at this time it is believed that the matter of frost prevention in the orchards of the Rogue River Valley is a settled problem. During the past season there were just a few orchards in the danger zone carelessly left without protection; luckily these have served as a check on our work. In every case the unprotected orchards lying within the frost zone were badly damaged, and, in some cases, the crop entirely destroyed, while the protected orchards did not show a frost mark or ring on any of the fruit.

orchards did not show a frost mark or ring on any of the fruit.

During the past season much valuable data have been secured, especially in the matter of orchard fuels and appliances to be used in frost prevention. As in the past two years' work, wood and coal have proven entirely satisfactory, but somewhat cumbersome and difficult to handle. Besides, the wood piles in the orchards have been more or less in the way, making it somewhat difficult to cultivate or work the soil. The same may be said in regard to spraying or carrying on any other orchard work. However, these materials have proven so satisfactory to those who have used them during the past three seasons that they seem willing to accept the difficulties occasioned by their use and will continue using them in the future. To Mr. J. G. Gore should belong the credit of first using wood successfully as a fuel for orchard firing in the Rogue River Valley. During the past three seasons Mr. Gore has saved a pear crop on his 71-acre Bartlett pear orchard. His first firing was done with old rails which he took from an old fence surrounding the orchard. Later he used cord wood with equal success. The crops harvested during the past three years have been unusually clean, free from all frost marks and very heavy. The trees are about 21 years old at this time, and the average annual crop for the past three seasons has been approximately twelve car-loads. His results are in striking contrast with those who failed to protect their orchards which are even less exposed than is Mr. Gore's orchard.

Not only has Mr. Gore saved his pear crops, but his apple crops as well, with the exception of the past season when one freeze found him unprepared and he did not have time to distribute fuel in the apple orchard. As a consequence, a large part of the apple orchard failed to set fruit on account of the blossoms being frozen. In this particular case, the apple orchard, which is directly south of the pear orchard, could not be benefited by any firing in the pear orchard, since the slight air movement was from south to north. Mr. Gore has had the opportunity to see the other fuels tested, namely, coal, crude oil, and distillate; but he is of the opinion that wood is to be pre-

ferred. A number of other growers share the same opinion and

are now preparing for next season's frost fighting campaign. Crude oil, direct from the California wells, and 28° test distillate have been successfully used. In the past, crude oil was very little used on account of the fact that it was difficult to obtain it sufficiently free from water. However, during this season a very good grade of crude oil, practically free from water, and at a cost of about $4\frac{1}{2}$ cents per gallon laid down, was very largely used in some of the large orchards with entire This oil was burned mostly in the Fresno pot, or heater, with about 60 to 70 pots per acre; the actual cost for one night's firing per acre, including the labor necessary to fill the pots, was about \$3.00. The crude oil was very easy to handle and was distributed in the orchard by means of a large wagon tank carrying lines of hose. The hose was attached at the rear end of the tank, and the nozzle carried by the laborer. With two men for each tank, two rows of pots could be filled almost as fast as the team could walk with the loaded tank. A record of some of the work of filling the pots was carefully kept, and the average showed that six men could easily fill 2,000 pots in 8 hours. At 60 pots to the acre, this crew would easily handle 33 acres. In handling the crude oil, as little pumping as possible should be done; gravity should be depended upon, not only in filling the pots, but also in filling the wagon tanks.

The 28° test distillate is a much better fuel than the crude oil, but its cost laid down is about double that of crude oil. However, it is a fuel that can be relied upon since it can never contain water. As a matter of fact, if water were poured into it, its specific gravity would cause it to be always on top. Careful tests have shown that, gallon for gallon, it will last longer than crude oil and is not so easily extinguished. It is also easier to light since it volatilizes more readily than crude oil. However, in lighting both these fuels, gasoline should be used.

In lighting crude oil or distillate, the following very simple method has been employed by many of the orchardists: A medium-sized machinist's oil can is filled with gasoline and a few drops are squirted into each pot. A small plumber's torch is fixed to the end of a stick about two feet long, and as the gasoline is squirted into the oil-filled pot, the lighted torch is immediately applied. By this method, fuel pots may be lighted as fast as a man can walk through the orchard.

Mention has been made of the use of wood and coal. Previous to the past season, fine materials, such as shavings and sawdust saturated with crude oil, were used to light the coarse material. However, it has been found that the easiest way to light the wood (preferably heavy sticks since light wood burns too rapidly) is to first place the half dozen sticks for each pile in such a way that the ends dovetail. Then a can of kerosene and a plumber's torch are used to light the wood in much the same way as the gasoline. Sometimes, instead of using a plumber's torch, a large swab, saturated with kerosene and used as a torch, served the purpose very well.

In order to light the coal, which is mined near Medford, Oreg., it was found necessary to employ the coal heaters. In using heaters, a piece of waste, saturated with crude oil, is first put into the bottom, and, on top of this, fine material, such as small sticks of pine or other readily ignitible stuff, is placed. Then about 25 or 30 pounds of broken coal are poured in. In lighting, a torch is applied at the bottom of the heater, the flame passing through the vents and igniting the waste. These heaters are lighted as rapidly as any other fire, but much more time is necessary in preparing them for use.

A large number of practical tests have been made in order to determine the length of time different materials will burn and give the maximum amount of heat to the surrounding atmosphere. Measured gallons of crude oil and distillate, burned both in the Fresno pot and in a common 10-pound lard pail holding a gallon each, were used in the tests. While there was some slight difference in different lots, or samples, the average

time taken to burn a gallon of each with the covers or dampers entirely removed was about 4 hours. There seemed to be no difference in the style of pot so far as the time required to burn one gallon nor in the amount of heat given off. The row of holes at the top of the Fresno pot seemed to be of no advantage whatever. The tests under actual service in the orchards showed that a plain sheet-iron pot without any holes or vents would serve every purpose. The charge usually made for the various patent pots runs all the way from 20 to 25 cents or more; while a pot just as good could easily be made for from 6 to 10 cents, depending upon the quality of the sheet iron.

Coal fires in sheet-iron heaters filled with from 25 to 30 pounds of coal easily burned 4 to 6 hours with the damper removed. Wood fires, with about 6 good fir sticks of cord wood, lasted easily 4 to 5 hours. In the burning of cord wood or longer sticks, more attention is necessary in order to get the best results. It is quite necessary to frequently move the sticks forward into the crater of the flame so as to keep them burning. However, knowing the direction from which the slight breeze usually comes, the wood may be so placed as to secure good results with a minimum amount of labor. By cord wood, the 4-foot length is to be understood. The number of fires per acre must necessarily vary between wide limits. In an old orchard, where the trees are large and mostly cover the ground, fewer fires are needed in order to maintain safe temperatures than in an orchard of young trees which only partly shade the ground. Under ordinary conditions, an old orchard with wide spreading branches may be protected from injury even where the temperature goes as low as 20° F., with 60 crude oil, distillate or coal fires per acre. The same orchard can be protected with from 30 to 35 wood fires per acre. Younger orchards under similar conditions of temperature will require at least 70 pots or heaters per acre, and perhaps, 50 wood fires. In case temperatures do not range below 26° F., the number of fires which should be lighted may be proportionately less. The conditions, of course, are so variable that no set rule can be given, and the only thing that can be said is that the one in charge must look after the temperatures in the orchard and start the fires as needed. Usually, only one-half the number of fires should be lighted, and the remaining pots or wood piles should be left as a reserve to be lighted only when the temperature begins to fall below the danger point. It is not well to wait until the temperature has gone much below the danger point, since injury may be done by warming up the frozen blossoms or fruits too suddenly, and thus having the same effect as the sudden warming by the morning sun. Another important factor is the placing of a double number of fires around the outside rows, especially on the sides from which the slight breezes come.

The cost of firing per night per acre depends not only upon the cost of the fuel, but also upon the degree of frost. Under average conditions, say with temperatures of 26° to 27° F., the cost per night per acre with the fires burning 4 hours has been estimated for the past season as follows: Crude oil, including the labor of distributing the oil and interest on the cost of the pots, with 60 pots per acre, \$3.00; distillate, including the same tems of expense, \$6.00; coal, including the same items, \$5.00. This is on the basis of 250 pounds of coal per acre hour, the coal being worth \$4.00 per ton at the mine. The cost of hauling the coal, as well as the kindling for starting it, is included within the estimate. The cost of firing with wood is very difficult to give since the price of wood varied greatly. However, it would be safe to say that with 30 to 40 fires per acre, under the above conditions, the cost would be from \$2.00 to \$4.00 per acre. From this it will be seen that crude oil is the cheapest of the fuels, taking everything into consideration, with wood a close second. Distillate is the most expensive; but for liquid fuel it is by far the most reliable. However, when the value of the crop is considered, the above actual costs represent a very cheap

insurance.

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The value of any fuel for frost prevention depends upon the amount of heat it is capable of giving off. All of the fuels which have been mentioned have proven entirely satisfactory. A careful test of crude oil in the Burrell orchard, at Medford, Oreg., on the night of April 13 and 14, gave the following results in a 30-acre pear orchard, which is about 22 years old, the trees being large and spreading. At 12:00 midnight of the 13th the temperature in the orchard was 36° F.; at 1:00 a. m. of the 14th the temperature dropped to 31° F., when the fires were immediately lighted, and in a short time the temperature in the orchard rose to 33° F. From 2:00 a.m. until 5:00 a.m. the temperature outside the orchard remained approximately 26° F., while the temperature within was held to 36° F., with the exception of the south side, which was not so well protected by fires, and where the temperature along the outside row registered 32° F. The temperature inside the orchard was recorded by a man who had some thirty thermometers which had been previously tested at my laboratory. These thermomters were hung about 31 to 4 feet from the surface of the ground, being suspended from the branches of the trees. Thermometers were also placed outside the limits of the orchard and well away from any influence of the fires within the orchard. In the above tests, 60 pots were used per acre.

Similar tests were carried out with distillate, wood, and coal, and results equally satisfactory have been gotten. It is not at all difficult to raise the temperature 6° to 10°.

From what has been said it will be seen that the protection of the orchard from frost injury is dependent rather upon heating than the use of the so-called smudge. In our work we have ceased to use the term "smudge," and have substituted the word "heating, or firing," both terms seeming more appropriate. There is only one value in a dense smudge, and that is in cases where it is impossible to keep the temperature above the danger point it will serve to prevent the too sudden warming of the frozen blossoms or fruits when the morning sun strikes them. The smudge may also be more or less effective in trapping any heat generated by fires, or prevent heat from radiating away from the surface of the ground or the trees. However, when the temperature runs very low, the smudge is no protection. Some smudging has been done in the valley, using damp manure, straw, and rubbish, but only in a few instances and where the temperature did not go below 28° F. in the pear and apple orchards.

One of the most important things which the orchardist must know is when to fire. A number of manufacturers have put on the market frost alarm thermometers which may be set to ring an electric bell at any desired temperature. Most of the instruments tested by the writer have been found to be very inaccurate, and in actual use often fail to work. Several instances of failure have been reported, and in one case a considerable amount of fruit was lost through depending upon one of these instruments. At best, all that a frost alarm thermometer can do is to give an alarm when a certain temperature is reached, and it is, therefore, much wiser to use a good alarm clock, and depend upon forecasts from the nearest U.S. Weather Bureau station. In each case a good local observer is the most important factor.

In order to do accurate work and get results all instruments used on the farm should be tested. In my work in the Rogue River Valley I have found thermometers which varied both ways as widely as 3° and 4°. All this had to be corrected, and the growers were forced to get standard instruments, or, at least, have them tested before putting them to use in the orchard. It is a wise plan to use a large number of thermometers, and one per acre is not too many. There are always some spots colder than others in every orchard, and it is only by using a sufficient number of instruments that these spots can be found.

Before any firing is done, some knowledge should be had of injurious temperatures. These temperatures vary quite widely

for the different fruits as well as for the different stages of growth. A large series of tests have been made in the Rogue River Valley and upon these tests the following table, giving injurious temperatures in bud, in blossom, in setting fruit and at other times, is appended. Injurious temperatures may not be the same from season to season, as weather conditions previous to frosts determine very largely the ability of plants to resist freezing temperatures. In every case there should be a physiologist on the ground to determine approximately this factor. A few days of very warm weather, together with an ample supply of soil moisture, will cause the newly-formed cells of the blossoms and fruit to be filled with a watery protoplasm, or cell sap, which freezes more readily than concentrated cell sap. If a freeze follows a period of weather in which temperatures have been such as to produce slow growth, lower temperatures than those given in the table may not cause injury.

Table 1.—Temperatures injurious to fruit when in bud, in blossom, etc.1

Fruit.	In bud.	In blossom.	In set- ting fruit.	At other times.
Almonds Apples Apricots Cherries Peaches Pears Plums Prunes	* F. 28 27 30 29 29 28 30 30	° F. 30 29 31 30 30 29 31 31 31	* F. 30 30 31 30 30 30 30 30 30 31 31 31	* P. 2: 2: 3: 3: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2:

DISCUSSION OF WEATHER CONDITIONS IN THE ROGUE RIVER VALLEY.

In the spring months it is found that during the day the wind blows mostly from northerly quarters. These winds are not moisture laden; that is to say, the relative humidity is usually low, often as low as 25 per cent at temperatures of 60° to 70° During the night, when frosts are likely to occur, the winds die down altogether, or begin to blow slightly from the south. The winds from the south are even drier than the northerly winds and hence the dew-point temperature is usually lower toward morning than that observed in the early evening. Whenever the winds blow from the west or from westerly quarters, it is rare that frosts occur. It is only on the valley floor that any serious injury is liable to be caused by low temperatures during the blooming season or sometime thereafter. Even on the valley floor, where there are some slight elevations, no frosts may occur, while a few feet below, injury may result. The hillsides surrounding the valley usually escape frosts altogether at that period of the year, and it has been found that temperatures range 10° or more higher. All the frosts which occur in the Rogue River Valley are due to depression and lack of air drainage; the cold air coming from the surounding mountains being trapped in the basin. Since freezing temperatures occur simply by the cold air settling in the lower spots in the valley and this air remaining perfectly still, it is evident that there is never any difficulty in maintaining the heat from fires or the smoke from smudges in the orchards. High winds rarely, if ever, occur during the time that the temperature is below the freezing point, and if such did occur, firing would be unnecessary. It has been mentioned before that a slight breeze usually comes up from the south during the early morning. However, this breeze is never sufficient to more than waft the heat and smoke through the orchards, and does not interfere to any great extent in keeping up the temperature. From this it will be seen that the conditions in the valley are ideal for the prevention of

¹ These temperatures are approximately those of the air in contact with the fruits and blossoms. It is quite possible, however, that very delicate measurements would indicate somewhat lower temperatures, due to evaporation from the immediate surface of the plant.

During the past three years a very careful study has been made in order to determine some safe method for forecasting freezing temperatures. It is believed that the results of the past season's work, together with other published data,2 are sufficient evidence that the system used has been successful. Whether or not it may prove so in the future, or whether it may be used in other localities where weather conditions and the topography of the country differ widely from those in the Rogue River Valley, is an interesting problem for future investi-

It will be seen upon inspecting the records made for the season beginning with March 21 and ending May 22 that there is a relation existing between the dew-point temperature observed in the early evening and the minimum temperature of the following morning. For the Rogue River Valley it has been found that when the atmospheric temperature in the early evening is between 50° and 60° F., the dew-point temperature may be relied upon generally to indicate the minimum morning temperature. It has been found that for such atmospheric temperatures, with clear sky and northerly winds, the minimum temperature to be expected is 3° or 4° below the dew-point temperature as observed. If the daily temperatures have been high and the winds are from the west or westerly quarters, the minimum temperature will always be higher than the observed dew-point. Again, during the latter part of the spring season with long days and a very large amount of insolation, the minimum temperature usually remains the same as the dew-point, or even higher, depending upon the maximum temperature

during the day.

Without some study, an inspection of the data in Table 2 would seem to indicate that no close relation exists between the dew-point temperature as obtained in the early evening and the minimum temperature recorded during the night and the morning following. In the early part of the season, from March until about the middle of April, the relation seems more close; but after that time until the latter part of May the rule does not seem to hold. There is a very good reason for this. During the early part of the season, the days were naturally shorter and the daily maximum temperatures were not so high. Hence, the amount of heat absorption by the soil was small in comparison with that absorbed during the latter part of the season. Unfortunately, with no self-registering instrument, the daily temperature curves could not be obtained, and maximum temperatures were not recorded. Had this been done it would be easy to show why forecasts for frost were not made during the latter part of the season, when, according to the rule, frosts should occur. It must be remembered that the relation between the dew-point temperature and the minimum temperature occurring before morning holds good only when the atmospheric temperature at the optimum time for taking the dew-point readings is not far above 50° F. The nearer the atmospheric temperature is to 50° F., at the optimum time of observation, the closer the agreement of the dew-point temperature and the minimum morning temperature. The optimum time, as indicated in the table, is not far from 6:30 p. m., and is for the Rogue River Valley only. It is possible that we may find an earlier hour just as safe, but this must be worked out. Of course, in all local forecasting, an accurate knowledge should be had of general weather conditions as given by the nearest district forecasting station. To rely entirely upon the dew-point apparatus would be a mistake. The movement of the barome-

⁹Farmer's Bulletin 401, U. S. Department of Agriculture, The Protection of Orchards in the Pacific Northwest from Spring Frosts by Means of Fires and Smudges, by P. J. O'Gara, 1910.

ter as well as wind directions must play a very important part in making up the forecasts. In all the work done locally by the writer, much assistance has been given by Mr. E. A. Beals, District Forecaster at Portland, and Mr. N. R. Taylor, of the Sacramento Weather Bureau station. These gentlemen have been very kind in offering suggestions and giving advice as to

some of the best methods to employ.

The territory covered by local forecasts made at Medford is about 70 miles in length, and includes the districts surrounding the towns of Ashland, Talent, Phoenix, Medford, Central Point, Jacksonville, Eagle Point, Table Rock, Tolo, Gold Hill, Gold Ray, Woodville, Grants Pass, and Merlin. The forecasts were given to the Pacific Telephone and Telegraph Comapny at Medford, a separate sheet being given each operator. Tentative forecasts were given each morning about 9:00 a. m., but the final forecasts were made up at 6:30 p.m. and given to the telephone company at 6:45 p. m. These forecasts were then telephoned to the different towns and stations where they were distributed locally. Instead of calling up the different farmer telephone lines, the subscribers called in for the forecasts, and usually by 7:00 p. m. every grower knew the probable weather conditions which would be expected before morning. It would be difficult to know how many people were served by these forecasts; but in many instances at least five growers used the same telephone, or got the forecasts from the subscriber who owned the telephone. It is estimated that between 1,000 and 1,200 people received the forecasts daily, and this excludes all the small vegetable growers and gardeners within the towns.

The Pacific Telephone and Telegraph Company deserves much praise for the efficiency shown in getting the forecasts distributed. During evenings when it was known that a heavy frost would occur, extra operators were put on, for the purpose of distributing later foreasts which were often given where some slight change occurred and which made it advisable to issue another forecast. This occurred only a few times, and on such nights the extra operators were instructed by the manager, Mr. D. H. Drewery, to be prompt and careful in delivering the forecasts. During the entire season not a single error was

made.

The local forecasts, as given in the record book, were delivered word for word to the telephone company, and in most cases the dew-point also was given. This was done because a request was made for the data by a number of growers who had their own psychrometers, made according to the directions given them by the writer. These directions were also accompanied by a dew-point table printed on a card so that those who desired could check their own observations with those given out in the local forecasts. It was with a great deal of pleasure that the writer realized the close approximation made by different growers using home-made apparatus. Any slight difference in the readings could easily have been due to slightly different local conditions of the atmosphere.

It is believed by the writer, as well as the growers, that the Rogue River Valley has not only settled the problem of orchard heating, but also the important matter of accurately forecasting frosts. During the past two years not a single serious error has been made inforecasting. Whether this can be done indefinitely remains to be seen, but the writer believes that it is entirely possible. The writer does not attempt to say that the same methods will apply in other localities having entirely different conditions, but it is believed that for every locality the optimum time for making the forecasts may be found, as well as all the other factors which enter into the problem.

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Table 2.—Record of weather observations at Medford, Oreg., from March 21, 1910, to May 22, 1910, inch.

Date.	Time of observation.	-	nometer.	point	State of weat	her	Wind to	Tatu B	
	Josef Vation.	Dry.	Wet.	Dew-point	State of Weat	ner.	Wind direction.	Minimum temperature	Remarks.
March 21 March 22 March 23 March 23 March 24	6:15 p. m. 6:45 p. m.	55 44 42 40 41	49 41 39 37 37	43 38 35 33	Cloudy		Slight south	4 3 3 3 3	3
March 24	E-45	50 39	41.5	32 31 32	Clear	****	Slight northwest Brisk northwest		Firing garant
March 25	5:30 p. m. 6:50 p. m.	54.5 51	36 45 44	34	Clear. Partly cloudy. Partly cloudy.	0.000	SHRUL DOPUDWEEL		
farch 26	10:00 a.m. 5:35 p.m.	46 52	39.5 42	31 29	Cloudy		Slight northwest Slight north Brisk northeast	31	
farch 27	6:50 p. m. 6:30 p. m. 8:30 p. m.	46 52 49 56 48 57 50	40.5 46.5 43	29 36	Cloudy		Slight northwest	38	
arch 28	5:15 p. m. 7:00 p. m.	57 50	45.5	37 32 32 32 32	Clear		Slight northwest	34	
arch 29arch 29	8:30 p. m. 7:00 p. m.	46 56	47.5	32 39 35	ClearClear.		Slight northwest Slight northwest Brisk southwest		
arch 30	9:00 p. m. 7:00 p. m. 5:00 p. m.	50 61 67	43 52	44	Clear	i	Brisk cast	34	
arch 31arch 31	6:30 p. m. 9:00 p. m.	63	52. 5 53 49	44	Clear A few clouds	8	Slight west	38	
cell I		52 59 47 41	45	37	A few clouds Cloudy Clear	Î	Brisk northwest	36 38	
pril 2pril 2pril 2pril 3	7:00 p. m. 10:00 p. m.	47	36.5	30	Cloudy Clear	F	ligh northwest		Cloudy at 3:00 a. m. Firing general.
ril 3	8:00 p. m.	55 - 47 44 43 63 56 62 52 59 55 51	43 40 38	31	Clear		MIRI		Firing general on valley floor.
ril 4	0:30 p. m.	43 65	38 53	31 (Clear	2	ugnt south		Unsmudged orchards badly hurt.
fill decessors	8:15 p. m.	56 62	48.5	41 C	lear lear loudy		BHILL		
ril 6	6:30 p. m. 7:20 p. m.	59 55	47	27 I	loudy	LB	light southrisk northrisk northrisk northrisk northwest	34	*
ril 7	9:00 p. m. 5:35 p. m.	51 59	47 45 44 42 47 45 48 51	31 C	lazy lear artly cloudy	B	ight portheest	31	Clouded again about 3:00 a. m. April 7.
118	0:30 p. m. 5:45 pf m.	57.5 59	45	30 P	artly cloudy loudy	M	oderate northwest oderate northwest oderate northwest	31	Only 1° of frost. No firing.
il 10	5:45 p. m. 5:35 p. m. 5:45 p. m.	56 54	51 46. 5 45	36 P	artly cloudy	SI	ght northeast	32 44	There
il 11	:45 p. m. :40 p. m.	57	49	35 C 41 P	lear artly cloudy	Li	zht northwest	32	Thermometer just reached 32 . No frost.
11 13 6	:40 p. m.	52	49 42	42 C 29 C	artly cloudy learing lear	Sh	ght northeast ght northeast	40	
114	:30 p. m.	64	36, 5 48 39, 5	30 C 29 P ₁	lear artly hazy	Sli	ght east	26	Firing general. Some orchard temperatures raised 10°.
15	45 p. m. 00 p. m.	70	52.5	34 Cl	ear	1 (2011)	CHE WOSE		No firing done.
6:	45 p. m.	71 76	56	43 H	earazy	Cal	sk south m	40	done.
1 19 6;	45 p. m.	74	19	7 Ra	uning	Lig	ht north	38 42 49	
20	30 p. m. 4 45 p. m. 6	9 4	16	3 Ch	ear	Ship	ht westht southeast	39	
23 6:	50 p.m. 7	9 5	9 4	8 Cle	ear	Slig	ht southwest ht southwest ht south	37 45	
26 63		8 4	9.5	2 Ha	w clouds	Slig	ht northwest	40	
27	10 p. m. 40	6 4	0.5	Cle	ar	Cali	ng northeast	C	Clouded about 2:30 a. m. Heavy dew April 27.
28	5 p. m. 60 0 p. m. 43	46	6 9	Cle	iningarar	Ligh	ng northeast it north it northeast	40 C	Clouded about 2:00 a. m. and began to rain.
30 5:3	5 p. m. 45 5 p. m. 56 0 p. m. 54	.5 47 46	. 5 31	Rai	ningtly cloudy	Bris	k northwest		
8:4	0 p. m. 64	46	.5 43	Rai	tly cloudy ning wery	Sligh	k northwest	37	
6:3	5 p. m. 49	45	.5 40	Rain	ning	Sligh	t northwest t northwest t northwest	42 R	loudy all night. ained almost all night.
6:30	p. m. 52 p. m. 50	45	42 42 44	Rair	ciear spots	Sligh	t westt northeast		
11:00	a. m. 61 p. m. 69	52 54.	5 44		r	Sligh	t northeast	38	
8:45	p. m. 68 p. m. 59 p. m. 54.	55 52.		Clea	y	Sligh Sligh	t northwest t northwest		
6:45	p. m. 75 p. m. 78	5 50 58 60	46 44	Haz	r	Calm	south	40	
6:35	p. m. 81 p. m. 61	61 57.	5 46 47 5 55	Part	ly cloudy	Slight	westy northwest	44	
6:30 8:00	p. m. 59 p. m. 56 p. m. 68	50. 49.	5 43	Parti	ly cloudy §	Storm	y southwest	39	
6:40	p. m. 69 p. m. 67	54 56 53	42 45 40	Clear		ilight ilight	northwest	40	
7:00 7:00		49	39 21	Clear		STISK:	east southwest	40 35	
6:45	p. m. 75	52. 8 55. 5	26 27	Clear	S	light	southwest	31 38	
6:45	p. m. 70 p. m. 63	51 49	35 30 34	Clear.	S	light	southwest	38 38 36 34 43	
6:45	p. m. 75 p. m. 80 p. m. 76	58 62	45	Clear.	B	TISK I	northwest	34	

Table 1.—Climatological data for September, 1910. District No. 12, Columbia Valley.

			E.	Tem	perature,	in de	grees	Fahr	enhe	it.	Prec	cipitation	, in it	ches.	day		Sky		tion	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy		Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind direction.	Observers.
Montana.	Deer Lodge	5, 300	9	51.6	******	80	19	25	25	45	1.93		-1.14	0.5						C. D. Demond.
Steon Mountain	Powell	5,716	15	51.9	- 1.0	81	19	25	25	42	2.61	+ 1.01	0.42	11.5	6	10	13	17	w.	J. R. Wharton.
Butte	Flathead	3, 100	16	53.2 53.6	6.0	91 76	17	25 23 30 21	25 121	40	2.62	+ 0.14	0.63	1.5 T.	7	10 15	10 8	10	sw.	J. R. Wharton. Mrs. I. M. Kennedy. Hiram Platt.
Comoss	Ravalli	2,800	6	52.7	*******	82 79	16	21	91	40	1.20	*******	0.70	0.0	4					Charles Frost.
Cast Anacondas	Deer Lodge	5,500 2,975	5 4	51.0	*******	79 80	18 16 19 15	25 19	25	39 49	1.68		0, 65	0.6 T.	10	12 12	10	8	SW.	C. D. Demond. Mike Petery.
Iamilton	Ravalli	3, 575	7	53.6		80 74	15	29	12	30	3.35		0.62	5.2	10	13 10	11 9	6	e.	Charles Frost. C. D. Demond. Mike Petery. Bitter Root Valley Ir. C M. K. Landreth.
Tat Creek	Powell	2,965	11	52.4	- 1.5	80	19	25	25	37	2.31	+ 0.98	0.77	T.	10	11	10	. 9	W.	U. S. Weather Bureau.
Calispellost Creek	Deer Lodge	5, 200	****	51.8		86	19	18	25	55	1.86 1.50		0.95	0.0 T.	7 9	11 13	5 7	14 10	w. sw.	Frank Henault. H. L. Beebe.
	Missoula	3, 225	32	56.1	+ 0.3	82	15	30	251	41	2.76 1.31		0.99	*****	12	10	9	ïi	SW.	U. S. Weather Bureau. E. S. Wilton.
Ophir	Powell	4, 207	10	46.1	- 4.1	80	19	13	26	44	0.93	- 0.45	0.28	0.5	8	0	29	1	e.	S. B. Muchmore.
hilipeburg	Granite	3, 278	7 12	51.7 54.4	- 1.5	85 82	20 15	26 30	12† 26†	44	1.94	+ 0.40	0.73	1.5	8 8	14 ^d 13	1 17	8 ^d	sw.	G. T. Bramble. M. H. Pierce.
Pleasant Valley	Flathead	3,500	3 2	49. 2 55. 6	******	83	19	18 31	12 24	31	2.93		0.78	3.0	10	10	17	3		A. D. Stillman. F. P. Brown.
lains leasant Valley oison t. Ignatius t. Regis	Missoula	2,700	1	55.24		82 83 77 84 85	15	27 25	26	40 e	2.58		0.83	1.5	11	15b		5b	nw.	U. S. Reclamation Servi
t. Regis	do	3,600	6	53.2		80	15	23	12	49	2.35 1.45	*******	6.65		8	3 22	23 4	4	ne. w.	R. D. Lee. E. K. Tarbox,
nowshoe	Lincolndo	4,500	14	48.5 55.4		74	19 19	20 28	25 26	32 52	3.91	+ 0.58	0.87	6.5	13	10	4 6 5	14 10		J. C. Riter. W. E. Milnor.
roy	Flathead	3, 200	2	52.5h		86 84	16	30	26	46h	2.51	1 0.00	*****			94	5h		8.	W. E. Milnor. F. F. Liebig. G. E. Luce.
Villow Glen Stock Farms Wyoming.	Deer Lodge		1	******	*******	*****	****	*****		****		*******	*****	*****	****	****	****	****		The state of the s
(fton	Uinta	6, 200 7, 000	6	54.6 51.2	+ 1.5	85	9	15 14	26	55 53	1.04	+ 0.19	0.36	0.6 T.	5	24 14	6	8	RW.	A. U. Call. Mrs. Lucy Brown.
lita	do	5,900	10	53.8		80 84 78	9	17	26 26 26	57	1.20	+ 0.31	0.42	0.0	5	22	3	5	w.	C. G. Heiner.
Nevada.		7,000	4	49.2	******	78	9†	15	26	55	0.90	******	0.30	*****	5	10	14	6	sw.	U. S. Army.
an Jacinto	Elko		5	50.2		92	27	22	12	55	1.50	******	1.04	0.0	4	22	0	8	sw.	Moses Jones.
tandrod	Boxelder		6	58.0		79	8†	30	26	45	1.86	******	1.34	0.0	6	19	6	5		T. B. Jones.
Idahe.	Cassia		9	58.5		-88	9	20	26	55%	0.76		0.42	0.0	3				w.	G. A. Axline.
				******										*****						Wm. L. Eames. O. H. Barber.
llackfoot	Bingham	4,503	15	57.7	+ 0.1	85	15†	22	26	51	C. 47	- 0.04	0.20	0.0	5	18	10	2	sw.	E. A. Dowd.
Ilmo Ilmerican Falis Ilackfoot Ilackfoot Dam Sock's Ranch Sogus Creek Joise Sonners Ferry Joulder Mine	Elmore	3,500	2	53.2		84	9	16	26	54=	0.84		0.28	0.0	6		****		sw.	N. W. Irsfield. William Bock.
logua Creek	Boise	4, 200	25	61.0	- 0.1	99	19	98	****	39	0.50	+ 0.09	0.35	0.0	6	10	6	5	nw.	F. P. Ingraham. U. S. Weather Bureau.
ionners Ferry	Bonner.	1,850		55.2		84	19†	24	25	45	2.71		0.55	0.0	11		13	7	sw.	W. H. Heideman.
Juhl	Cassia	3,800	5					*****	****		2.27		0.98	0.0	5	22	4	4	*****	Patrick Moriarty. H. J. Idema.
lurke	Shoshone	4, 082	6			80	19 19	26 30	25 12†	37 48	1.77		0.45	T. 0.0	11 4		14	6 3	sw.	W. Alvin Hall.
amas	Cassia	4, 815	2	56.8		88 84 92	15	20 25	6	54b	2.37		0.90	0.0	7				sw.	Prof. Wm. J. Boone. Mrs. Edna Faulkner.
			14	60.0	- 0.3	92	19	20	28	53	0.30	- 0.26	0.23	0.0	1 5	19	4	7	w.	Chas. H. Shepherd. H. R. Collins.
hesterfield	Bannock. Kootenai Boise. do	5, 424	15 20	54.6	+ 3.1 + 3.5	86 82	19	12 35	26 10	60 39:	1.17	*******	0.38	0.0	5	13	12	5	sw.	Chas. S. West. Jos. T. Scott.
ottonwood Creek	Boise	4,000					19	20	24	60	1.36		1.00	0.0	5 7	16 18	0	14 8		Frank Hedrick. Mrs. Gertrude Kerby.
rawford	Nez Perce	1,520	3	***		89	20	31	25	49	0.94		0.61	0.0	3	17	11		aw.	R. R. Richmond.
Deary	Latah Nez Perce		6	59.2		94	19	29	25†	55	0.84	*******	0.66	0.0	•	15	12	3		H. M. Call. Emil Schuessler.
riggs	Fremont	6,097	3 2	54.4 52.7		- 82 78	91	17 23	26 26	51 44	0.50	******	0.17 0.22	0.0	5	9 24	3 5	18	sw.	Walter H. Durrant. Geo. B. Edie.
die	Idaho	4,500	***	******	*******		****										****			W. A. Edwards. C. P. Kar. U. S. Forest Service, M. B. Merritt.
mmett	CanyonBlaine			60.8		92	19	28	11	51	1.06	** *****	0.81	0.0	4	23	7	0	w.	U. S. Forest Service.
OFFICE	Lembi		13	52.6	+ 1.2	84	16†	19	26	55	0.80	- 0.19	0.50 1.60	0.0	3	16 15	8 12	6 3	sw.	Mrs. Gertrude M. Ross.
arnet	Boise	2,575	11	64.4	- 1.7	98 98	19	37	28	45 58	1.02	+ 0.65	0.45	0.0	5	26 26	0	4	W.	Asa A. Kenison. I. E. Perkins.
lenns Ferry	Lincoln	3, 572	3 2	44 6		90	19 19	26 26	26 26	50	0.33	*******	0.17	0.0	4	15	12	3	nw. w.	John Krall, ir.
rand Forks	Owybee	3,000	2	62.0		95	19	28	26	524	0.56		0. 20	6.0	4				nw.	Henry Kottkey. N. G. Massey. Joseph M. Clarke.
rimes Pass	Boise	5, 200	2		*******						1.62		0.70	0.0	5					Joseph M. Clarke. Fred Perry.
uffey	OwyheeBlaine	5, 347	2 2 7	58.2		91 85	19	37 26	12†	48	0.58	*******	0.41	0.0	5	25 17	7	6	w. sw.	U. S. Forest Service.
daho City	OwyheeBoise.	2,752 4,000	5	64.2		92	19	36	26	44	0.55		0.19	0.0	4	17	8	5		J. M. Waterhouse. Mrs. Emma L. Hammer.
iaho Falls	Bingham	4.742	16	58.4	+ 1.5	88	19	25	26	51	1.30	+ 0.48	0.48	0.0	8	13	4	13	ne.	Dr. T. M. Bridges. W. E. Henke.
ndian Valley	Bingham	2,999 6,500 2,305	2	57.3		89	9	18	26	57	0.37		0.14	0.0	3	13	9	8	se.	Eva Johnston.
ellog	ShoshoneBoise	2, 303	****	56.4		91	19	26	25	52	1.25	*******	0.28	0.0	8 2	17 22	5	12 3	aw.	W. McM. Huff. Mrs. Josie B. West.
ooskiaakeview	IdahoBonner	1, 261	14	56.4	+ 0.3	78	44	30	25	34		- 0.45	0.45	0.0	6		7		sw.	U. S. Forest Service. E. D. Faust.
andore	Washington	5,300		49.1		84 90	15	20	13	54	1.64		0.60	0.0	6	17	1i	2		Mrs. Emma L. Brown.
ewistonittle Camas	Nes Perce	757	17 2	62.2	- 1.3	90	20	38	26	40	1.48	+ 0.83	0.59	0.0	5	10 8	16	6	e. w.	U. S. Weather Bureau. Solon McCoy.
ong Gulch	Elmoredo.	4,500	2								2.15		1.00	0.0	6	18	9	3		Mrs. Elizabeth A. Hjort. U. S. Forest Service.
ost River	Blaine	5,700					****				*****								*****	Mrs. Mary L. Lemon.
loCall	OwyheeBoise.	5,025	5	46.6		90 79	14	26 18	11 28	59 52	1.04		0.45	0.0	8	19	5	7	se. n.	W. D. Winter. Will Newman.
ackay	Custer	5, 897	3 8	55.8	******	85 89	8	29 23	7 27	51	1.40		0.38	0.0	7 7	17	7 18	6	93.987	Il & Forest Service
lesa	do	3, 275		61.8		93	19	29	26	456	0.48	*******	0.30	0.0	2	20	4	6	n.	Chas. A. Hackney. Elias Nelson. Joseph McGhee. J. H. Henry.
liddle Fork	Idaho	1, 250	7	62.14		95 89	7	40 35	27 5†		1.73 0.82	*******	0.85	0.0	7 5	12	12			Joseph McGhee.

TABLE 1.—Climatological data for September, 1910. District No. 12—Continued.

			K		Perman	, in de			CILIE	10.	1100	cipitation	.,	iones.	day.		Sky.		to	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevalling wind	Observers.
Idako-Cont'd.	Latah	2,748	18	56.4	- 1.1	86	19	25	25	42	0.56	- 0.68	0.30	0.0	4	9	15	6	nw.	University of Idaho.
fountainhome	. Elmore	3, 150	5 4 2	60.6 58.8		90 85	9	25 24 23 33	25 26 26 25	55 50°	1.06		0.53	0.0	3	18 20	10	6	nw.	Mrs. Elien Manion. J. E. Steinour.
furtaugh	Nes Perce	3, 182	18	53.8		84 87	19	23	25 26	50 52	1.54		1.10	0.0	6	19 15	0	11		P. Mitchell. John Adams.
akley	. Idaho	1,400		61.0	+ 1.5							+ 0.15							8.	J. D. Agnew.
rofino	. Nez Perce	2, 159	20	60.8	- 1.0	91 87	20	30 28	26	52 50	1.06	+ 0.67	0.85	0.0	3	16 15	13	6	n.	Geo. Alteneder. E. F. Allen.
eaceful Valley	do	2,380	2	62.4 55.6	******	96 89	1)	30 17	26 26	52 57	0.56		0.46	0.0	8	12	15	3	nw.	E. F. Allen. J. W. Newton. Mrs. Fannie Say.
ebble	Custer	6, 900		48.6		78	11†	15	26	58	2.17		1.13	0.0	4	21	4	5		David P. Clarke.
ine	. Boise	4, 200				*****		*****			*****	*******	*****			****			*****	Mrs. Jennie Potter. James McDevitt.
leasant Valleyocatello		3,000 4,483	11	59.9 61.3	+ 0.6	91 87	19	28 32	26	48	0.67	- 0.52	0.25	0.0	7	23 19	7	3 4	80.	C. E. Friedrich. U. S. Weather Bureau. Mrs. Anna M. Wrensted.
ocatello Nursery	do	5, 396	3	54.8d	*******	88	9	24	26	58d	1.13		0.31	6.0	4		****			Mrs. Anna M. Wrensted.
oplarorthillowers Ranch	Bonner	1,665	22	54.6	+ 0.7	82	20	25	25	41	0.97	- 0.96	0.27	0.0	5	15	5	10	*****	Stanley Bybee. H. A. French. Mrs. Mary French. Walter L. Cole. Richard M. Green.
vle Creek	do	4, 300 3, 100	2	******		*****					0.39	*******	0.15	0.0	3	12	8	10	ne.	Walter L. Cole.
attlesnake Creek ichfield	Elmore	4,000		60.1		88	19	26	11	50	0.73	*******	0.30	0.0	5	21	6	3	w.	C. H. Fitch.
oseworth	. Twin Falls	4 400									0.20	******	0.14	0.0	3	8	20	2	sw.	C. H. Fitch. D. B. Hartwell. O. A. Hatter.
uby Creek	. Lincoln	4,204	4	60.2		88	9	25	26	55	0.78		0.41	0.0	6	23	2	5	w.	Will Parry.
t. Maries	. Kootenai. Lemhi. Twin Falls. Bonner	2, 263	14 5	57.0 56.8		90 88	19 16 9	27 22 33	25 28	85	1.51 0.88	+ 0.03	0.36	0.0	10 7	10	13 11	5 7 2 4	80. W.	J. S. Turnbull. E. K. Abbott.
almon River Dam	. Twin Falls	9 000	3	61.0	******				111	47	1.62	*******	0.61	0.0	5	16	10	4	n.	Arch M. Gilbert. E. H. Edgertond. Clifford M. Garner.
andpoint	. Boise	5,000	2		*******						1.42	*******	0, 60	0.0	5		****	****	*****	Clifford M. Garner.
lver City			3						****		0.85		0, 29	0.0	6	21	3	6	8.	O. A. Truman. A. D. Bradfield
nith Prairie	. Elmore	5, 200	2																	Wm. W. Newell. T. D. Crittenden.
nith Ranger Station	. Blaine			56.8		87	9	28	26	51	1.59		0.75	0.0	4	15	10	5	w.	J. E. Minear.
ringfield	Bingham	4,420	2 4		*******	87 84	9	25 23	25	53 49	1.04		0.38	0.0	5	19	8	8	sw.	Mrs. W. A. Edwards. Arthur Cutting.
gar¶∥ nnyside	Elmore		2 2		*******	92	19	32	11	46	1.25	******	0.50	0.0	5 5	15	8	7	nw.	E. A. Wilmot. Mrs. Verna Paddock.
ipod Mountain	Twin Falls	3,825	6	60.0		89	19	27	26	54	0.95		0.40	0.0	5	20	10	0	e.	J. A. Waters. A. M. Slatery.
ernon	. Shoshone	2,728	13	55. 7 56. 0	+ 0.9	84 87	19	26 29	26† 25 26	44	0.74	- 0.15	0.58	0.0	9	8	13	9	sw. e.	U. S. Weather Bureau.
endell		3, 400	3	63.0		92	9†	28	26	49	1.13	******	0.40	0.0	5	20	10	0	w.	Chas. L. Dingler.
berdeen	. Chehalis	162	19	56.6	- 1.0	79	19	38	11	35	4.36	- 0.25	1.13	0.0	0	3	25	2	w.	Carl S. Weatherwax.
nacortesaker		200	16	59.8		85	14	39	12	44	1.81		0.52	0.0	6	15	1	14		Douglas Allmond. Robt. M. White. Sanford B. Mayhew. U. S. Weather Bureau.
ellingham		60	15	56. 8 55. 8	+ 0.6 + 1.9	82 82	13 13	35 31	25 25	36	0, 72 1, 15	- 1.93 - 2.38	0.26	0.0	5 7	7 7	19	6	sw.	U. S. Weather Bureau.
lalock Island	Benton			******		*** **				****			*****		****		****	****		
lewett	. Chelan	30				*****					1.34		0.84	0.0	3	****				John Beermeister. U. S. Navy Yard. Mrs. H. F. Bertram.
rewster	Okanogan Yakima	1, 620		61.2 49.6	******	87 80	19 19	36 26	25 24	36 47	0.78		0, 43	0.0	4	13 17	17	12	sw.	Mrs. H. F. Bertram. U. S. Reclamation Service
ashmere	. Chelan			******	******	*****					1.09	******	0.58	0.0	6	19	9	2 15	nw.	Valley Power Co. George Landsburg.
edar River	King	212	17	87.2	- 1.2	81	13	31	12	46	1.78	- 0.78	0.53	0.0	5 7	ii	10	9	8.	I. S. Turner.
heneyealum	Spokane	2,351	11	54.2	- 1.3	89	19	25	9	54	0.74	- 0.22	0.35	0.0	5	19	5	6	nw.	Northern Pacific Ry. J. A. Balmer.
ealum	. Whatcom	140	7	56.6	******	87	19	26	25	47	2.45	******	1.31	0.0	6	7	12	11	sw.	Geo. Gibbs.
olfax	Whitman	2,300	21		*******											****			*****	W. H. James.
olvilleonconully	Stevens Okanogan	1,635	10	56. 6 57. 4	$+0.1 \\ +1.2$	90 87	20 20	25 31	25 25	53 40	0.71 0.43	- 0.08 - 0.56	0.45	0.0	3	18	15	10 7	sw.	W. L. Sax. Wm. Baines.
owiche	Yakima Lincoln		10				****				*****	******	*****	*****	****		****			U. S. Reclamation Service Otto Wollweber.
avenport	do	2,450	1	56.6		86	19	31	25	39	1.00	0.70	0.90	0.0	8	20 19	6 8	4	SW.	W. H. Reed. W. W. Hendron.
ayton	. Columbia	1,700	24	62.4 58.0	+ 2.5	81 86	14	39 40	24 12†	33 45	0.36 2.39	- 0.72	0.17	0.0	6	12	14	4	æ.	Walter O. Eckert.
ixie . uckabush	Walla Walla Jefferson	5,000	1 2	56.8	*******	80	10	30	91	38b	0.99	*******	0.35	0.0	8	11 7b	5 6b		sw.	T. Z. Andrews. E. J. Finch.
ist Sound	San Juan	500	15	******			****	30	91	49	*****	+ 0.17	*****	0.0	4	18	8	4	nw.	Beni, E. Harrison,
lensburg	Grant	1, 265	22 7	57.4 64.4	+ 1.0	88	19	36	26	47		T 0.11	0.40	0.0		13	13	4	8.	R. Lee Barnes. T. J. Cook. E. A. Markham.
rksrt Simeoe	Yakima	1,427	16	57. 8 60. 1°	- 3.6	86 90	19	35 32	25 11	43b	3. 10 1. 80	+ 1.43	1.55	0.0	4	11° 20°	30	150	8. W.	Frank C. Hill.
at Lake	Snohomish	2,900	1								2.97		0. 92 0. 21	0.0	12 2	15-	8*		w.	Frank C. Hill. C. M. Mackintosh. John W. Anderson.
ld Creek	Yakimado																			The state of the s
dendale	Klickitat	1,600	4	60.2		88	19	36	26	41	0.60 2.12	- 0.16	0.40	0.0	4	14	13	7	w. nw.	Klickitat Co. Abstract Co. H. Cleaver.
tton	Klickitat	2, 200		60.9			10	27	1	54	1.09	******	0.95	0,0	6	8	6		sw.	Frank Kuchnel.
intaville	Adams	1,400	2	00.2	******						0.56		0.38	0.0	3	24	4	2		Dr. A. V. Marion. Dr. B. Hill.
chess Valley	Okanogan Kittitas		1								0.57	*******	0.34	0.0	5	10	15	5	8W.	Mrs. Manda Shain.
ennewick	Renton	367	15	62.7 59.1	- 1.6	87 90	19†	35 29	26 25	44	0.05	- 0.26	0.05	0.0	1 4	10	16			Mrs. I. W. Soth. Harry H. Cole.
ona	Benton	430	5	62.3	******	89	20	37	9	49	0.72	*******	0.60	0.0	3	16	8	6	*****	Dr. F. S. Hedger.
Center	Clarke	250	13	55.7	- 3.1	88	15	34	7†	52	0.96	- 1.65	0.30	0.0	6	21	7	2	sw.	J. A. Ulsh. Joseph Brothers.
Crosseke Clealum	Whitman	1,400	1	58.2		87	14	24	26	50	0.44	*******	0.27	0.0	5	19	8	3	w. nw.	M. E. Schreck. U. S. Reclamation Service
ke Kachess	do	2, 235	2 2	54.9	*******	85	19	31	12	46	1.58		3.71	0.0	6	18	5	7	0.	Do.
ke Keechelus	Chelan	2,479	19	61.9	6.0	00	19	40	25	35	2. 15	+ 0.17	0.60	0.0	7 7	8	18		w.	W. H. Van Meter.

TABLE 1.—Climatological data for September, 1910. District No. 12—Continued.

	BIFE I	1	yrs.	Temp	erature	in d	egree	s Fah	hrenk	neit.	Pres	cipitatio	n. in ir	ehes.	days,		Sky		tton.	4, -
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy	Number of	Number of part-	Number of	Prevailing wind	Observers.
Washington—Cont'd.	Ferry			59.9				27	25	49	0.82			0.0				14	sw.	Mrs. J. S. Myers.
LesterLone Tree	Chehalis	1, 614		57.64 56.4	******	85 71	14	27 33 47	12 15	48	1.90			0.0		164			w. nw.	W. W. Clabaugh. U. S. A. Engineer Corps.
Longmires Springs	Pierce	2,800	1								0.45			0.0	3		9			P. H. Leese.
Lost Creek	Chelan	1, 100	1 3	Bank areas				****			0.40			0.0		10			sw.	Mrs. Barbara Shearer.
Lyle McCumber's Ranch	Klickitat	TOTAL TOTAL	1 87								0.90		0,40	0.0	3	17	6	7	sw.	Mrs. Mary McCumber.
Merritt	Chelan	2, 175	3					***		40			*****	0.0						H. B. Smith. G. H. Mottinger.
Mount Pleasant	Benton	650	10	58.9	- 0.7 - 1.4	82	2	39	26 7	32	0.27 1.25	- 0.29 - 1.40	0.57	0.0			6	6	W.	F. M. Grout.
Mount Pleasant	Yakima Stevens	1,000	18	61.0 55.0	+ 1.1	89 88	20	33 26	9	47	0.37	- 0.05	0.33	0.0		12	13		e.	Henry B. Scudder. Chas. M. Talmadge. Steve Nagy.
Newport Nighthawk	Okanogan	3,050						*****									1			Steve Nagy.
North Head Northport	Pacific	1, 350	11	54.4 58.1d	- 1.8	73 86	12 19	31		19	1.00		0.97	0.0		11	7	19	BW.	U.S. Weather Bureau. Forrest B. Phillips.
North Yakima	Yakima	1,070	1	61.8		86 89 82	19	37	25	39	0.38	******	0.37	0.0	2	18	6		nw.	II & Weather Bureau
Nutland Odema	Klickitat	1,540	7	60.8		89	15	32	26 11	39	0.03		0.03	0.0		8	21	1	sw.	J. R. Shepard. Wm. U. Neeley. Cecil S. Willis.
OlgaOlympia	San Juan	50	20	55.8	$+0.3 \\ -2.1$	74 81	121	28 32 42 35	25 12	28	1.16	- 1.07 - 1.36	0.42	0.0		11	15		nw.	Cecil S. Willis. M. O'Connor.
Omak	Ohanogan	850	1									- 1.00	0.40				10		*****	Wm. G. Tait.
Oroville	Garfield	5,000	1			*****		****			1.70		0.56	0.0	8	16	10		nw.	A. M. Dufield. Samuel Gruell, sr.
Pomeroy	do	1,500	18	59.6	- 2.2	89	18	30	25	49	0.30	- 0.75	0.10	0.0	4	12	13		W.	Peter McClung.
Port Crescent	Jefferson	80	20	51.3 56.6	- 1.2 - 0.4	83 77	19	36 42		38	1.58	-0.72 + 0.18	0.55	0.0		8	16	16	s. nw.	U. S. Weather Bureau. Frank Plummer.
Pullman	Whitman	2,550	18	57.8	- 0.9	87 80	19	28	25	41	0.76	- 0.58	0.26	0.0	6	15	5 9		aw.	State Agricultural College A. V. Higley.
Quiniault Republic	Ferry	2, 628	10	57.2 55.0	+ 0.9	88	20	23	25	39 50	5.52 0.58			0.0	7	12 16	11 8		w. nw.	Geo. B. Stocking.
Rex Creek	Chelan	1, 130	11			*****		****			1 09	+ 0.55	0.49	0.0	7					James W. Nicol. Northern Pacific Ry.
Rock Lake	Whitman	1.910	4	******	*******	******	****	*****		****						****			*****	P. M. Ramsey.
Rosalia Russells Ranch Scenic Hot Springs	Vakima	2,425	18	57.2	+ 1.0	85	14	33	26	38	1.01	- 0.15	0.67	0.0	5	12	9	9	sw.	Hans Mumm. Maggie M. Russell.
Scenic Hot Springs	King	2,021	1																	
SeattleSedro-Wooley	Skagit	38	19	58.0 58.8	$+0.1 \\ +1.3$	75 84	2	33	25	43	1.04	- 0.83 - 1.02	-1.09	0.0	9	8	16	11	n.	U. S. Weather Bureau. Mrs. H. L. Devin.
Sixprong	Klickitat	1,240	3	63.1		89	16	40	11	38	0, 25	******	0.17	0.0	3	17	8	5	ne.	C. E. Comstock. Skagit Power Co.
Seattle	Snohomish	100	16	56.6	- 0.6	81	2 2	34	13	46	2.10	- 1.08	0.70	0.0	9	16	1	13	nw.	Warren Hodge.
		3,000	11	57.4	+ 0.1	81	2	35	13	39	1.26	- 1.80	0.30	0.0	8	16	0	14	*****	O. N. Wiswell. C. E. Ingraham.
Snoqualmie Pass Snyders Ranch	Ukanogan	1 2. 2000									0.71		0.30	0.0	6	12	16	2 7	e.	Geo. M. Snyder. Miss Winifred Eichner.
South Bend	Spokane	1,943	15 29	57. 2 50. 0	+ 0.2	82 87	19	35	12 25	35	1.93	+ 0.73 + 0.92	1.07 0.51	0.0	14	8	16 12	10	w. ne.	U. S. Weather Bureau.
State University Stokes Ranch	King	2 670	1	56.8		74	2	44		23*	0.72			0.0	4	13	8 15	13	s. nw.	University of Washington. Chas. W. Gunn.
Sullivan Lake	Stevens	2,700			*******			******								10				U. S. Forest Service.
Sumner Sunnyside	PierceYakima	77	15	85.1	- 0.2	78 89	19	32	12	41	1.04	- 0.06	0.42	0.0	3	11	5 7	14	nw. ne.	H. E. Thompson. U. S. Reclamation Service.
Tacoma Tatoosh Island	Pierce	213	24 25	57.6	0.0	89 74	12	34 43 44 32 29	26 25 2 2 25	27	1.62	- 0.85	0.94	0.0	5	7	13	10	n.	U.S. Weather Bureau.
Tieton	Yakima Walia Walia	2,000	1	52.4 55.2	- 1.5	68 84 85	19	32	25	19	2.85 0.67	- 3.29	1.30 0.42	6.0	12 7	14	8 8 3	15 8 14	8. W.	Do. U. S. Reclamation Service.
Touchet Ridge	Walia Walia	2 500	3	59.0		85	21	29	26	49	0.48	*******		0.0	3 4	13	18	14	SW.	D. W. Dorrance. R. H. King.
Trinidad Twin Sister Lakes	Grant	900	6	64.9			19		25	37	0.66	***** *	0.25	0.0	4	23	4		nw.	J. C. Wheeler.
Twin Sister Lakes Twisp	Okanogan	1,350	7		*******							*******			****	****		***		
Tyee Upper Clealum Valley	Chelan	2,000	1									*******	0.44	0.0	6	12	10	8		Elias McCrea.
Vancouver	Clarke	100	35	60.3	- 0.6	85	2	38	25	41	1.34	- 0.37	0.65	0.0	8	14	8	8	nw.	A. A. Quarnberg.
Vashon Island Wahluke	Grant	410	21	55.5 65.4	- 1.7	85 72 94	13 19	42 42	12 15	29 40	1.47 0.83	- 0.72	0.42 0.58	0.0	3	13	11	18	A.	Miss Gertrude McClintock
Wallace	Okanagon	4,000	1	******	*******						0.33		0.28	0.0	3	3	16	11	n.	F. C. Koppen. G. A. Wallace. U. S. Weather Bureau.
Walla Walla Waterville Wenatchee (near)	Douglas	2, 624	26 20	62.4 56.6°	- 3.0 - 0.1	82 86 85	20 20	38 23 38	25 25 25	32 43°	0.70 0.58	- 0.23 + 0.09	0.69	0.0	3	14 20	11	5	8. W.	O. R. Monewell.
Wenatchee (near) West Branch	Chelan	1, 169	11	59.4	- 0.9	85	19	38	25	30	0, 28	+ 0.17	0.60	0.0	3	14	12	4	w.	Geo. A. Pitcher. U. S. Forest Service.
Wilbur	Lincoln	2, 203	11	54.2	- 2.6	87	19	25	25	49	9. 63	- 0.06	0.28	0.0	6	14	8	8	n.	Rollin J. Reeves.
Yale		375	8			84 98	14	33 41	7 27	37 46	1.82		1.01	0.0	7	9° 16	15°	5°	sw. n.	L. F. Williams. M. W. Zindel.
Oregon.						-			-	-	-									,
Albany	Linn	. 214	28 22	58.2	+ 1.6	84	2	36	7	40	1.22	- 0.59	0.46	0.0	6	11	9	10	n.	F. M. French.
Ashland	Clatson	1, 963	22 48	60.6 58.0	- 1.1	84 85 82	2† 19	37 46	11 25	38 31		- 0.09 - 0.17	0.25 1.54	0.0	12	11 8	17 10	12	w. sw.	G. G. Eubanks.
Baker City	Baker	. 3,466	20	******				*****				******		*****						Irving Club. U.S. Weather Bureau.
Bay City	Tillamook	3, 629	15 8	55. 4 51. 0d	- 1.1	80 81 85 80	12 23	36 19 36 34 45 28 40 35	25 11	39 48d	3.75 0.86	- 0.88	2. 10 0. 49	6.0	10	131	11	10	nw.	J. O. Bosarth. F. O. Minor.
BendBirch CreekBlack Butte	W Deeler	2, 900	1 9	59.4°		85	23 27	36	7† 7†	41	0.26	******	0.13	0.0	5	16 22 16	11	3	w.	F. S. Matteson.
Blalock	Gilliam	237	11	53.5 66.3 ^d	- 1.9	91 87	19	45	25	41 30 ^d	0.02	- 0.41	0.55	0.0	3	16	5 7	3 7	nw. w.	William Harris. Geo. W. Long.
Blalock Burns	Hood River	4, 157	20 19	56.9	+ 3.6	87 81	1 2	28	7 7	52 32	0.83	+ 0.02	0.50 0.27	0.0	4 7	24 15	5	10	w.	J. C. Welcome, jr. Val. W. Tompkins.
Casadero	Clackamas	503	1 2	50.2		87	2 2 5	35	7	42	1.13		0.69	0.0	6	16	2	12	nw.	Alf Drill.
ondon	Gilliam	2, 888	2	49.8		82		14	79	61	0.90		0.37	0.0	6	10	11	9	nw.	John C. Meen. C. H. Williams.
Corvallis	BentonGrant	266	21 15	59.0 57.6	- 1.1	83	2	35 27 40 42	25 26	38 53	0.85	- 0.53	0.54	0.0	5	18	6	10		Oregon Agricultural Coll.
Deadwood	Lane	350		58.8	- 1.8	83 84 83	19†	40	61	36=	0.54	- 0.23	0.18	0.0	9	21 9a	160		nw.	Dr. J. Campbell-Martin. Jos. Slemmons.
Oraville	Douglas	. 600	8 7	57.0		80	2 2 2 19†	42	7	33 45	1. 99 0. 62		0.85	0,0	10 5	11 5	7	12	nw.	Jos. Hackenberg.
Corvallis Dayville Deadwood Doraville Drain Scho Ella Sugene Fairview	Umatilla	625	5 5	61.5		85 85 84 82 72	191	23 34 33 38	25 25	50c	0.33		0.23	0.0	30	160	40	8 70	W.	Jos. Hackenberg. Ira Wimberly. R. B. Stanfield. C. F. Troedson. F. L. Barker.
Sugene	Lane	. 830 453	20		- 1.0	84	31	33	25 7	44 39 36		- 0.01 - 0.54	0.38	0.0	6	19 17	77	6 8	sw.	C. F. Troedson. F. L. Barker.
airview	Coos	142	12	51.6	- 1.0 - 6.8	72	5	34	4	36		- 1.66	0. 16	0.0	3	22	ò	8	DW.	William Bettys.

TABLE 1.—Climatological data for September, 1910. District No. 12—Continued.

orest Grove	Counties.	Elevation, feet.	Length of record.	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	9.	Greatest daily range.	-	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	iber of rainy d	ber of clear days.	ber of part-	ber of ady days.	Prevailing wind direction	Observers.
alls City			1			=	A	3	Date.	S	Total	ag ag	Gree	Tota	N 10.	Num	Num	Num	Preva	
orest Grove Waardiner Do						-		0.7			1 01	1 40								Chas. F. Vick.
endaleTil	shington	220	12 20	57.4	- 0.6	83	2	37	17	42	1.01	- 1.48	0. 57	. 0.0	4	20	5	5	5.	Pacific University.
enoraTil	melas	72	20	57.2	- 1.5	78	2	40 35	12 7	26	0.44	- 2.29	0.34	0.0	2	16	10	4		Hon. J. S. Gray.
1170 1	llamook	575	18	55.7 56.2	- 1.3	86 84 72 79	261	32	30	49	0.37	- 2.81	0.15	0.0	6	25 19°	3	7.	nw.	B. J. Simpson. Mrs. Jennie Reeher.
na nesch	III	30	8	53.8		72	2 2 1	32 37 19	30 25 7	25 56	0.02	*******	0.02	0.0	1	23 7	17	7	nw.	C. Dewey.
anite Gr	antephineerman	956	21	51.5 59.8	- 1.2	90	18	30	25	54	0.28	- 0.42	0. 18	0.0	2	22	17	6	nw.	L. M. Ford. John B. Paddock.
ants Pass Jos ass Valley Sh	erman	2, 381	8	52.6		90 80	19	30 24	6	46				C. 0	4 2	19	1	10	ne.	Oreg. Ry. & Navigation Orrin C. Mills.
indstone Cr	ookackamas	5,000		50 0			2	98	***	40		******		0.0			6	10	*****	Orrin C. Mills. Portland Water Works.
eadworks Cla	rrow	1,950	21	59.8 57.4	- 2.6	86 83	231	36 32	25	42	0.30	- 0.75	0.11	0.6	5	14	10	5	ne. nw.	Ralph Kenton.
rmiston Un	natilla	450	3	62.0		86 87	3	32 35	25 25	45	0.37		0.16	0.0	3	21	7	2		C. W. Kellogg.
ood River Ho intington Ba	ood Riverker	300 2, 165	19	59.5	- 0.1	87	28	30	25†	50	0.45	- 1.64	0.45	0.0	1	16	0	14	w.	H. L. Hasbrouck. J. M. Day.
cksonville Jac	ckson	1,640	21	61.1	- 1.1	89 74	23	36	7	44	0.96	+ 0.05 + 0.83	0.40	0.0	4	22	3	5		J. M. Day. E. Britt. F. F. McCully.
seph	llowa	4,400	21 2	53.0 48.5	- 0.4	74 78	23	30 20 30	6 11†	39 56	1.95 0.19	+ 0.83	0.70	0.0	5 3	19	13	8 5	g. W.	F. F. McCully.
amath Agency Kl	do	4, 250	15	55.1	- 3.6	79	51	30	14	43	0.63	+ 0.13	0.33	0.0	4 5	22	6	2	nw.	Edson C. Watson. W. H. Heileman.
Grande Un	ke	2,784	24	58.9	- 0.1	88	19	28	26	50	0.49	- 0.61	0.24	0.0	5	16	6	8	nw.	W. A. Worstell.
keview La Kenzie Bridge La	ne	2, 150	7	55. 6	- 2.4	83	2	26	71	51	1.11	- 1.27	0.61	0.0	5	16	0	14	sw.	Geo. L. Horton, jr. Howard W. Turner.
Minnville Ya	mniii	12	6	58.0	- 1.3	86	2	36 20	71	40	1.81	- 0.13	1.28	0.0	6	12	5	13	aw.	U. S. Weather Bureau.
drasCro	ook	1,400	7	55.7		79	19	20	11	31			0.30	0.0	4	17	9	4	nw.	Geo. Frissell. J. H. Pruett.
rrill Kl	amath	180	22	53.6		80	21	28 25 31	14	50	0.31		0.30	0.0	2	23	3	4		Mrs. Agnus Ritchson.
kkalo Gil	liam	1,600	4	58.4		83	19	31	25 7	39	0.18	0.50	0.18	0.0	1 9	24 13	10	3 7	W.	Frank Little. G. M. Muecke.
ramonte Farm Cla	nton		21 13	58.9	- 0.5	85	2	37		39	1.01	- 0.52	0. 62	0.0		10	-		n.	L. A. Peek.
unt Angel Ma	rion	485	24	60.4	- 1.0	82	2	40	7	35	1.88	- 0.13	1.15	0.0	7	18	7	5	w.	Dr. U. F. Fisher.
ountain Park	douglas	5,000	4	57.0° 50.6		82 71 79	19	40 36 31	7	40°	0.55*		0.45° 0.76	0.0	7	15 ^d 21	6 ^d	5 ^d	W.	M. Markley. Alex. Lundburg.
manual I de	ton	69	22	55.1	- 0.9	79	12	40	25	36	0.65	-2.06	0.44	0.0	5	8	14	8	nw.	William Matthews.
isley	ke	4,500	20	56. 5 59. 2		82 86	51	31	11 26	37ª 50	0.76	- 0.10	0.40	0.0	3	20° 12	6° 17	34	sw.	E. C. Woodward.
ot Rock.	do	1,817	1		- 2.1	93	27	29 35	25	49	0.71	- 0.10	0.44	0.0	3 4 4 6 7	18	0	12	sw. nw.	E. C. Woodward. E. F. Averill. John P. McManus.
ot Rock. Cli	ckamas	3, 879	15	50.2	- 1.3	77	19	31	7 7	35	1. 43	- 2.71	0.55	0.0	6	16	5	9	sw.	O. C. Yoeum.
rtland	rnev	4,300	38	60.0	- 1.1	82	2	45		30	1. 15	- 0.50	0.56	0.0		5	12	13	nw.	U. S. Weather Bureau. J. P. Jefferson,
incville	ook	2,864	13	******		83	30		****		0.54	- 0.11	0.25	0.0	4	19ª	54	5=		Geo. Whiteis.
ospectJac	kson	2,750	4	******				*****	****				*****	*****						E. F. Graham. Mrs. Iva B. Collins.
			1	******						****			******	*****						Craig Thom. C. G. Morgan.
chland Ba	ker	2,350	8	59.0		86	19	29	117	46	1.29	*******	0.71	0.0	4	21	5	4		C. G. Morgan. Mrs. Leah Fairman.
seburg Do	uglas	523	33	59.6	- 1.5	84	2	38	7	37	0.89	- 0.15	0.52	0.0	6	14	10	3	n.	U.S. Weather Bureau.
em Ma	rion	120	20	59.0	- 1.8	86	2 2	41	25	32	1.26	- 0.38	0.44	0.0	6 3	16	6	8	nw.	M. P. Baldwin.
nge Greehland Basebland Baseverside Maseburg Do leim Maskiyou Jacarta Ba	ker	4, 113	17	55.2		78	2	33		33	0.49		0.40	0.0		18	8	4	n.	U. S Weather Bureau. Hon. J. A. Wright.
affordCla	ckamas	400	13	59.9	- 1.6	87	2	39	7	38	1.24	- 1.08	0.66	0,0			***		ne.	Hon. J. A. Wright. John P. Gage.
e Dalles Wa	sco	112	35 20	62. 0 63. 0	- 0.3 + 4.5	86 85 85 92	19	39	25† 14†	40 34	0.05	- 6.53 - 2.00	0.44	0.0	2223245225	20 24	1 3	3	w. nw.	S. L. Brooks. C. B. Crosno.
natilla	atilla	340	14	63.0	- 2.2	85	3	40	11	39 57	0.36	- 0.15	0.27	0.3	2	18 24	1	11	W.	Mrs. Helen T. Duncan.
Afford	lheur	2, 242	18	61. 6 54. 4	+ 2.9	92 85	3 9 2	46 40 31 20 37 23 38	5† 4†	57 55		+ 0.18	0.37	0.0	3	24 19a	3 1 4 9*	2	nw.	H. P. Osborn. Geo. Howe.
			1	02 0		84 88	2	37	25	360	1.16		0.68	0.0	4	2	24	4	nw.	Chas. A. Parks.
llowa Wa	llowa	2,935	7	55.7		88	19	23	11	51	1.12		0.47	0.0	5	9	5 7	16	nw.	L. J. Coverstone.
seo	800	1, 263	7 2 8	58.4 58.4		80 89	8†	28	25† 11	46	0. 17		0. 13	0.0	2	22 18	5	7	W. BW.	A. J. Swift C. C. Covey.
ston	atilla	1,800	20	60.2	+ 1.6	80	201	30	25		1.42	- 0.11	0.70	0.0	5	7			sw.	M. A. Baker.
lliams Jos	ephine		17	81 94		79	3	24=		840	0. 00		0.30	0.0	3	22	6	2	s.	J. M. John. Jacob Rueck.
*, b, *, etc., indicate, r * Precipitation included									0	31-	0.00	*******	0. 50	0.0	"			-		vacoo reaces.

Table 2.—Daily precipitation for September, 1910. District No. 12, Columbia Valley.

Section																	Day	y of	moi	ath.														
Mineral Mine	Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	_	-			1	20	21	22	23	24	25	26	27	28	20	30	31	Total.
Namoula 68 69 69 15 16 16 16 16 16 16 16 16 16 16 16 17 17 T T T T T T T T T T T T T T T T T			+	1	-	-			-	-	-	-		-	-	-		-		-	-	-	-	-	-	-	-	-	-		-	-	-	6
Manual M		Missoula	0	ıı		. 00		. 32					. 01			04	.01	. 23	. 25			04		-		91					T	T		
Manual Manual 01 71 20 20 10 01 10 10 20 10 1	Bison Mountain	do	3	5		. 21	.00		.4	. 10			. 23	.0	5			.17	. 33			. 10	. 02	.42		. 10	. 08				T.			1.
Manual Manual 01 71 20 20 10 01 10 10 20 10 1	Columbia Falls	Flathead	6	3 .00		. 54	****	. 50				. 38	T.			.00		. 10				Т.	. 45	****	. 15	. 60					0			2.
Sach Assemble Sach Assemble			2	5	****	70										. 00	. 08	. 45	. 22			. 34	. 43	.01	. 04	. 30								2.
Figure Property	East Anaconda	Missoula	0	4	T.	. 05		. 25					T.	***		.01	.01	.08	.21			.04	. 65		T.	. 23	****			****	T.	T		1.
Section Manual T			5	2	. 01	. 64	.02	. 38	12			. 00					95	. 11	. 14			T.	. 61	69	T.	. 27				T.	- 10	0 .0	1	2.
Second Manual T	Int Creek	Missoula	2	0		. 12			. 41	, 04			. 09					. 46	. 26	****		****	. 28	. 12		. 64					T.			3.
Actional Meadows Months	ost Creek	Missoula	4 8 X 4 8	Beres	1 . 1/4	. 40.0		6 6	1 . A. V. S		Acres.						1 . 116	- 102			B	1 1 1 1 1 1				. 27		Leve		T.	.0	11		2.
Speaker Spea		Kootenai	5	8	. 03	. 35		. 12																		. 12					.00	8		1.
Section Sect	Ophir	do	0	4	.01	T.	. 10		.11		****			***	. 12		.01	. 38	. 22			. 12	. 05	. 20										2.
Plate 10 27 10 10 10 10 10 10 10 1		do	00	8		. 15	T.	. 10	.05		,		. 10				T.	. 28	T.			L	. 15			T.	. 05			T.				0.
Plate 10 27 10 10 10 10 10 10 10 1	lains	Columbia	10	6	T.	. 64	****		. 25			****						. 24				. 34	T.	. 22		. 15			****	****	I.	T.		1.
Section Sect	leasant Valley	Kootenai	- 7		99	. 23		. 73	. 10		. * * *	. 10						. 07	. 05							. 70								
Section Sect	t. Ignatius	do	8	.01	. 07	. 51		. 25	. 24			. 10			****			. 15			****	.11	.00			. 17	. 15							2.0
Figure F	altese	Missoulado	3		. 65	. 53	****																											
Figure F	nowshoe	Kootenai	2	0	. 05	. 65		. 46	. 32			.08	. 03					. 12	. 11		****		.08			. 82				T.	.87	.12		3.1
Figure F	pper Lake McDonald.	Flathead	T.		. 12	.01	. 19	.31	. 02	. 15	****	.11	. 12	T.			****	.03	11							1.30		1 05		. 05	. 10	. 10		2.3
	Willow Glen Stock F'm.	Missoula														****														****	. 00	.04		2.5
11	fton	Snake													. 15	. 18	. 22	.36	. 13															1.0
Marcheron Marc	Uta	do				. 18										. 18		. 13	. 03	.06		T.		. 03										0.6
San Jacobio Sanke	nake River	do			. 10	. 10			****			****	****		T.	. 42	****	T.	. 15 .	. 10	****	****	T.	T.										1.2
Standbord Stan	A warren	Snake													T			00	791	-				-			-			-				100
Blade	Utah.			****	****		****	****	****	****			****		1.	.11																		1.5
																		1	. 34	. 15				. 03										1.8
March Marc	Ibion	Upper Snake											T.		T.	T.	. 28	T.	. 42	. 06		T.												0.7
Cogus Creek Payete Doine Doine	merican Falls	do		****			***											***																
Cogus Creek Payete Doine Doine	lackfoot	do					***						T.		.08	.01	. 05	.04	. 29	***	T.	***	***	***	****	***						****		0.4
Organ Creek Payete Organism South	lock's Rapeh	Boise	*****					****						T.	. 03	. 26	. 01	. 13	. 13	. 28		***		***										0. 84
Upper Columbia	logus Creek	Payette																		***		***	***		****									
urke	onners Ferry	Upper Columbia			.55	.54	. 15	. 25			****	. 24	****	T.	***	. 05	. 22	T.	05	. 06	. 02 .	***	.01	***	***	10	***			10	94			0.50
urke	loulder Mine	Boise												T.		. 26	.98	.73		. 19			. 11											2. 27
Ottowood Creek Boise 1.00 10 10 T 10 06 10 10 T 10 10 T 10 10	urke	Upper Columbia	T.		. 14	.32	***	. 17	. 20		***	.07	T.	***				.08	01			.05	45	***		10			****		19	X 0 8.A		1.77
Ottowood Creek Boise 1.00 10 10 T 10 06 10 10 T 10 10 T 10 10	aldwell	Boise												T.		T.	. 13	. 58 .			. 13 .		. 05	T.										0.81
Ottowood Creek Boise 1.00 10 10 T 10 06 10 10 T 10 10 T 10 10	ambridge	Middle Snake						***	***						T.	. 14	. 90	. 23	13	1.	. 16	T.	T.	. 12	***	***	***	***	***				****	2, 37
Outcompood Creek Boise 1.00 10 10 T 10 06	edar Creek Dam	Upper Snake														. 30			90	P							***							0, 30
Taylord Cayette Caye	œur d'Alene	Upper Columbia	T.					. 20								. 90			40															1.17
Parting Company Comp	rawford	Payette												***		1.00	. 10	. 10	Γ.	18	. 10 .		.06											1.36
Section Color Co	uldesac	Clearwater	. 61					***				***					.08	. 25					T.		***		***			***	***	****		0. 94
Company Comp	ent	do	. 60	****	***	.06	***		***	***	***	***	***	***	****		***	12	06		***	T		***	***	***	***			***				0.84
mmett	riggs	Upper Snake			***	. 10 .										. 17		17 .	06 .		***									***				0.50
Salmon	dwardsburg	Salmon				***	***	***	***		***	***		***		. 22	****	.09	22	17	***	I.	. 13		***		***	***		***	***	****		0.81
Second S	mmett	Payette			***	***								***	****	T.	. 10	.81		.08	***		. 07											1.00
A	orney	Salmon			. 10 .	***	***					***					. OU .	.05	15				***	***	***	***	***	***	***	***	***			0, 80
lenns Ferry	Bruen vamey	rayesse	de ex el			e e e le .	***					8000		***		T. I	.00	44		14	T.	***	T. -		***									1.58
Ocding	lenns Ferry	do					***									. 17	. 14 .	02																1.02
Fanotylew Middle Snake 10 20 17 09 17 109 17 115 1																. 08	. 33 .	01 .	02															0.44
Middle Snake	randview	Middle Snake				***										. 10	. 20	17																0,56
aley	uffey	Middle Snake			***	***		***	***	***		***			T.					13 .	T		. 13 .											1. 62 0. 58
Abo City	alley	Wood-Malad														. 26	. 20 .	21		30														1.33
Middle Snake Win Upper Snake 14 Win Upper Snake 14 Win Upper Snake Win Upper Snake Win Upper Snake Win Upper Snake Win Win	aho City	Boise				20.0																	***	***	***			***						0.55
Clearwater Cle	laho Falls	I nner Sneke	4			O.B.		-					-		10.4	9.00		40	22 .	14	. 16		11											1, 30
Clearwater Cle	win	Upper Snake		***	***	14	***	***				***		***	***	T.		** **	** **	13	10			r				***		***				0.37
Clearwater Cle	ellog	Upper Columbia				. 28		.03	.09									19 .	28				21								.08	.09		1.25
Salmon S	ooskia	Clearwater		***						***	***	***		***	***	***		80 .	35	**	***													1. 15
Salmon S	ndore	Upper Columbia	· Tr	***		45		15 .								*	. 25 .	10	20 0			25								T.	.05			1.25
Salmon S	wiston	Clearwater	.59	***	02			Г.								1.	05 .	44	30		.01	01 .	05	**		**		***			T.	.02		1.64 1.48
Salmon S																43 .	. 01	20	27 -	UZI	10													1.28
No.	on Creek 8																				12											***	***	2. 15
Lost River Region	WTY	Dwyhee		***	***	***		** .					** "	r .																an ala				1 04
Middle Snake	Call	avette									** **					07	14 .	16 .	16 .	13	22 .	27	04 7	r	** **		***							1.04
Middle Snake	esdows															.08	38 .	21 .	19 .	17		30 .	07	00										1.40
Iner	dalla Park	Middle Snake		*** **				** **	** *				** **				18 .	30		7	r										Γ.		***	0.80
Tangara Upper Snake T 11 36 32 38 39 39 39 39 39 39 39	lner	Jpper Snake	. 85 .	***		** **	** **	**								Г	06 .	14 .1	03			10		50								. 05 .		1.73
	08c0W	Opper Columbia	.30	7	r.	08	7	r			** **			**				(36				12 7		** **	* * * * *	** **	**		r. 7	r.			0.82 0.56
															7	Г	53 .	11 .1	18 .	14 7	r													1.06
	s Perce	learwater	1.10														06 .	03 . 1	17										**	** **	03			0.49
Hara Bar. Clearwater. 10 .08 .10 .12 .28 .26															10 .	08 .	10 .	12 .2	28 .:	26				** **										0.94

Table 2.—Daily precipitation for September, 1910. District No. 12—Continued.

															1	ay	of n	ontl	h.														-
Stations,	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Idaho-Cont'd.		T	1			-							-	-	-							91										-17	1.
yette	Payette				****	****	****	****					T.	I.	T.	.07	. 46		T.			. 03			***								0.
bble	Upper Snake				T.									.06			. 24	. 25	. 18	.06	T.	. 12					. T.						0.
erson	Salmon												1.		. 22	. 12	1. 10																
cerville	do																95		19						***								Ö.
neacervilleeasant Valleyeatelloeatello Nursery	Upper Spake	***			.04		****	****						.02	.00	.00	.00	. 15	.03		T.												0.
catello Nursery	do															. 25	. 27	.30	.31														1
catello Nursery	Transa Columbia	** ***		000	90	T	94	****			****			1	1															. 27	. 15		0
wers Ranch	Boise													7	T	T		T		13											4		
le Creek attlesnake Creek,	Pavette	***	-1		Acres 4	Sec. of		****	REEA	SEREN	TX K T T	***	(型田·斯·西)			1	1						1							1			0
abfield	Boise														.00	. 02	. 18	. 18	. 30														
by Creek	Upper Snake Boise Upper Snake Upper Columbia Salmon Upper Snake Upper Snake Upper Columbia Boise Wood-Malad Owyhee Boise					****	****	****																									
pert	Upper Snake										T.		T.	. 04	. 10	- 11	.01	. 41	. 05		T.	T.			T				T	.00	T.		0
Maries	Upper Columbia	T		. 10	.05		****	. 16			1.	.00			.2	. 05	. 12	. 05	.07		. 25	.10				T.							0
lmon River Dam	Upper Snake														. 18	. 31	. 61	. 29	. 23														1
ndpoint	Upper Columbia	** ***										****	T.			. 60	.45		. 15	. 18		.0											1
oshone	Wood-Malad	**																															0
ver City	Owyhee	**									****				T.	. 23	. 21		.02	.01		. 24	1 . 10	1:::									
nith Prairie nith Ranger Station.	Upper Columbia	**																															1
ldier Creek	Wood-Manad Wood-Malad Upper Columbia Wood-Malad Upper Snake do Middle Snake Payette Upper Snake do Upper Columbia Wood-Malad	** - * *				***	****								-71	. 18	.48	. 18	39	.30	. 20					1							i
ringfieldgar	do	2.			.00									.10	.00	.45	.01				.49												1
nnyside	Middle Snake	** ***												T	.00	. 28	-50	. 02	. 42	.00	****	T.				1							i
ipod Mountain	Upper Snake	**				****								T.	.10	.20	.20	.40	. 05														. 0
rnon	do				T.						T			T.		T.	. 58	T.			T.	-10	3		T.		1		T.	0	T.	1	0
allace	Wood-Malad	***		0	. 30	1.	. 00	.14							.1	.40	11	. 18	. 26				T.										1
																																	4
perdeen	Puget Sound					. 02		****	. 30		. 10		***				- 00	. 90															i
ker	do				T.	. 26	. 10				T.							. 24										6 (. 3	2 .5	1 .17		1 0
llingham	do				01	****			T.	.04	T.	T.						. 14										9	0	7 .6	2 .18		i
ewett	Wenatchee						****		****		08	.00						.84					1:::			1	1			. 2	3 . 12		1
remerton	Columbia			T.			. 22										.43				T.								. 1	3	7 94		0
umping Lake	Yakima				T		T.	T.			T.		***				. 20				T.	Ti	2 T.	***					T.	.0	T.		1
ashmereedar River	Wenatchee Puget Sound Columbia Yakima Wenatchee Puget Sound Coast Spokane Yakima Puget Sound Coast					. 19					. 34						. 7												. 2	4 .4	2		1
entralia	Coast						. 03		.04			. 22	3				5	. 35					1:::	1								1	
heney	Yakima						. 15										. 3	S				. 1	0							. 1	2 .00		0
ealum	Puget Sound			1	3				. 02	3							2		****							1				1.0	. 0.		
earwater	Palouse					****																											0
olville	Columbia			4	5	.00	.02								T.		. 1	.04				.0	1 0						1				0
onconully owiche	Vakima	***		. T.		T.	****																										
rescent	Coast										****																			1.1	3		i
avenportayton	Columbia Puget Sound Columbia Puget Sound		13	0			.01	. 13							***		.1	T.			. 03	.1	3							T.			. 0
etroit	Puget Sound								T.		. 02						4	3 . 35												3 .6	0 .82		. 2
ixie	Columbia	1	5							03	20	4	5	0		. 0.	6	2 .40		****	. 20									3	1 .5	8	. 2
ast Sound	Puget Sound do Yakima																						. T							ġ			. (
llensburg	Yakima Columbia																1						0 1.										
phrataorks	0			-		1		. 28		. 12	. 3							. 2						0	2		20		12				
ort Simcoe	Yakima Puget Sound						. 50	. 50			0	10					3	4					.0	4					. i	5 .4	7 .9	2	. 2
oat Lake	Yakima									· lexes						x x 8 8	1 1.00	S CAR		* * * ×			N X 5	* * * * *									
old Hill	do																									·les.							. (
oldendale	Columbia Puget Sound				T.													6											2	3 .9	1 .3	7	. :
uler	Columbia			* * * *											T		8 T					. 0	2 .0	2		1				.0	3		. 1
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ene Mountain	do			. T.			. 34	.01										18			. 01								0				
achess Valley ennewick	Yakima						****		***			1						ole we				.0	5							T.			. (
ettle Falls	do	0	38	1	3			04																					0	D			1
ionaosmos	Yakima		38				. 04	T.	***																								
a Center	do						T.				. 20					T.	3					· lees							T		0 .0		
Crosse	Palouse	T		T.			. 05				T			T.		T.	3 .0	.00			T.	.1	3						T		3 .10	D	. 1
ke Kachess	do			. T.							.00						3	5				. 4	0								0 .0		
ake Keechelus	do			. T.							30				T			2 .00				0	5 T.						0	3 .0	3		. 1
skeside	Columbiado		M														6	3			. 00	.2	4					** **					1
aurier	Kettle				7		. 12	. 02										. 3				T						* * * *	T	1.0	6 .0 0 T.		. 1
esterone Tree	Puget Sound				5		.01		. 21	8 T.			7					5 .5	8		T.	T.						05 T	0	11.6	6 .8	0	. 3
ongmire Springs	Puget Sound																				T										6 T.		
ost Creek	Columbiado						. 11										2				1.	1.00											
vle	do																																1
Coumbers Ranch	do						. 10											0				.4				1							
errittottinger	Wenatchie																	8				. 1	9										. 1
ount Pleasant	Columbiado						. 02				T.			. T.			5	7 .4	0		- 01	0.0	3 .0	1				** **		1			
oxee	Yakima						T.	. 02			· · · ·									T.		. 6			*** * ·	100					4 (T)		

Table 2.—Daily precipitation for September, 1910. District No. 12—Continued.

a															1	Day	of m	onth	1.														
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Washington -Cont'd.													T	T	T																		T
orth Head	Coast					. 05	.06		. 04		·	. 22	2				. 36	. 61		***					****		. 08		.01	1 .47	T.		1
orth Yakima	Vakima	***	T.		****	****	T.	.01		× * * *	1.	****		T	1.	****	T.	T.	****		T.	.37	****	****	****	****	****		T.		1		1 6
utland	Columbiado	****																				.03			****								. 0
desea	do	- 16			****		T.	. 00	795		. 3	***	T.	T.	T.	T.	.99				T.	1.07		****			19		T.	. 15	T.		. 2
ympia	do		****	****		****	***	****	. 93		****	- 05		* ****	****	****	.45	. 28	****	****		****	****	****	****		-14		. 05	144	.16		
mak	Okanogan										****													****		****							1
roville	Okanogando Snakedo Coast Puget Sound Palouse Coast Kettle	****		7	****		****							T				07			***			****			****		7	T			1
olaomeroy	do	.00	1	T	, 34		.00			****	T.	****			****	T.	.05	. 05	****	****	. 16	. 10	****	****	****	****	****			T.		****	1
ort Crescent	Coast								.00		.00	. 12	1				. 30	.08							****		. 07		.00	. 36	.47		. i
ort Townsend	Puget Sound			. 00			. 18	T.	T.	. 00	T.	. 29					T.	. 64							****			.04		. 19		****	. 1
ullmen	Const.	.00		****	. 10				96	01		93			****		95	25	. 20			.07			T	****	17	****	20	2 76	1 30	****	
epublic	Kettle	T.		. 00		. 04	. 25	T.										. 15				. 05	T.						. 05	. 01			. 1
ex Creek	Columbiado					***						***									***												
ock Lake	Palouse	.00	****	****	***	****	. 15				***	****		****			****				. 02	. 45	. 00	****			***	****	.08	-14		****	1
osalia	Palouse			T.								****					. 22				. 05	. 67								. 03	.04		1
waella Ranch	Yakima									1				· · · · ·																		Acres!	
enic Hot Springs	Puget Sounddodo	****	****	****	****	01	***		T	****	01	****		T	****		97	08	***		***		***			****	T	****	T	10	60	****	1
dro-Woolley	do				****	.00	.40								****		.03	. 20	***					***			. 03	. 01	.05	1.00	.40		. 2
VOTOR#	Columbia						. 07										- 01				10.	. 17									10000	Inches !	. 0
cagit Power Dam	Puget Sounddodo	****	****		****	01	70			****	00			****			40	25		***	***		***	****		****		****		47		***	2
oqualmie Falls	do	T.			05	T.	. 15	T.		****	. 26				.01		. 30	. 14	***	T.	***		***					T.	. 02	.30	. 04		1
ogualmie Pass	Yakima																													leevel.		Sec.	
nyders Ranch	Columbia	****					.03	. 28	***		****	T.		****	****		. 02	. 18			***	00	***		****		67		00	. 02	. 19		0
outh Bend	Spokane	. 24		. 19	****	. 00	.51	****	. 13	.01	T.	. 00	****	****	****	****	. 46	.00	***	ol.	.02	. 43			T.		.04	****	T.	. 05	.04		1
ate University	Columbia. Coast			***	****			****				****						.48		***									. 01	.08	. 15		1
okes Ranch	Columbia	.00		. 05	****		T.	. 10				****				****	T.	. 26	***		***	***	***				**	****		T.		****	. 0
THE CHEST STREET, S. L. C. L. C. L.	D										1971			40.00			0.0												0.8	400		1	T'i
nnyside	Yakima			****			. 01	****								****	.01					. 38											. 0
coma	Puget Sound	***				T.	T.		T.		.03			T.			. 49	. 16 .										T.	T.	. 35	. 59		1
toosh Island	Yakima	.01	***	T.	T.	T.	01	16	. 39	T.	. 10	. 20			.01		09	. 03 .		000	T	42		1.		1.	. 17	. 02	T.	1.08	. 43		0
uchet	Puget Sound Puget Sound Coast Vakima Columbia do	. 61					T.							T.		T.	.40				T.	.07								T.			0
nuchet Ridge	do	T.				000	. 05										. 39				. 10 .												0
inidadvin Sister Lakes	Yakima	.03						.33									. 05				T.	. 25							T.				0
visp	Columbiado	***			****	****	****	****		***			****							***								****					
pper Clealum Valley.	do	. 03				****	. 44							****			. 34 .		***	**	. 07 .								.02	. 26		***	i
pper Clealum Valley.	Yakima	****		****	***	****	05			****	97	05		04	****		85	91	***	***		***	***		***	****	****	****	0.5	09		****	1
shon Island	do yakima. Columbia. Puget Sound Columbia Okanogan Columbia do do Spokane	****	****	****	****	****	.00	****	****	****	.06	. 00		.04	****	****	. 40	.21	T.	***	***	***	***	****		****		****	.00	.38	.42		i
ahluke	Columbia	.04			****		T.	. 21									T					. 58 .	***							T.			0.
allace	Okanogan	****		****	****		. 16	****						70	T.		16	.28	***	***	***	T							T	.01	T.		0.
alla Walla	do	. 20	****	****	** : *	****	.09	. 22	****	****			****	1.	****	. 00	T.	***	***	1.	***	.07	T.	****	***	****	****	****	1.	1.	1.		0.
aterville	do							. 32						T.			. 60	T				.06							T.	T.			0.
st Branch	Spokane								****	****								***		***												***	0
lbur	do	.00	****	****	****		T	****	****	****	05	.04	****	****			. 25	.55	.62		***	. 10	***					****	. 20	. 70	****	****	1.
Oregon.	Snake	1.01														. 16	.84	. 95 .			T												2
Oregon.	Willamette												**				10	90	10		10												1.
hany	Willamette Southeast Drainage. Rogue Columbia Snake			****		****	****	****			****		T.	.05		.14	. 10	.20	. 1C	.33	. 12	.02	* .	***				****	****		***		0.
hland	Rogue								****	****	****			. 10	. 21			***	. 25	. 02	.01 .												0.
toria	Columbia	****		.01		, 02	. 14		. 10		. 02	. 29	****		****	10	. 25 1	. 54	T. .		***	10					.04		.05	.75	. 18		3.
ker City	do	****	****			****	****	****				****	****	****	****	. 12	. 20	.00	***	.00	***	. 10 .	***	***	***			* * * *			****		
ker City	Coast			.01	****		. 01				. 03	.01					. 02 2	. 10 .											. 01	.48	.06		3.
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ar Valleyach Creek	do		****	****	****	****				****	****		****	.82	1.	. 10	35	T		T.		20	T.	***	***	***				****			1.
lfountain	John Day						T.					. 01					T.	.15	T. .		.50 .												0.
																																	0.
g Basin	John Day	****	****	****	****	****		***			****	****		. 40	. 20	.04	. 13	***	. 20 .	01	04	***	***	***	***		***	****		****			1.
ack Butte	Willamette												.05	. 35	***			.05		. 15	.55 .	***		***									1.
dock	Columbia										T.			****			. 02 .				Г.	Т		***							0.0		0.
ena Vista	Umatilla	. 10	****	***	1.6 0			***	****	****		****		****		01	.80	01	***		r	. 00 .		***		***	***	***					1.
rns	Southeast Drainage.												.08		. 17				50		.08						***						0.
rns Mills	Rogue								***		***		****																				
																										***							1.
nyon City	John Day				****						****		****						***						:::		***						
seade Locks	Columbia						.06				.06		***				. 21	.05			09	. 27											0.
scadia	John Day Columbia						T				. 63			. 08			. 58	.08	Γ	42 .	48	00						220	T	T			1.
ristmas Lake	Southeast Drainage.			** *	****	1555	. 02			***	. 00	***		13	****	37	.07	21	***	18	06	00		***	***	***	***	***	1.	4.	***	***	0.
																										***!	***						0.
ndon	John Day																											***					
rnucopia	Coast Snake Willamette Snake		***	****				***	****	***		***	. 03	T	***	33 1	.00	40		01	09 .	31					***	***		****	***	***	0.
rvallis	Willamette						T.				Γ.	.01		T.			. 22	13	05		54												0.
acker Creek	Snake	T.												T.		****	.06		?	Г		02								T.			0.
escent	Deschutes			12.2					***	***				. 18	***	10	14		**	04	** *	***							T				0.
adwood	Willamette								1111	100	613			OI				***	02	02	30	01		***					1.	***	.01	***	0.
amond "H"	Southeast Drainage. Columbia											***																					
ain	Umpaus	***		T.	***	T.	.07	***	.01	***	. 19	. 13		. 01 .	***		.43 .	85	01		20	r					***			.24		***	1.
f	Columbia			****			****	***	***	***	T	***	.04	T.	***		12	10 .	01	**	18	Γ.		***			***	***	T.			***	0.
fur	FF															. 15	35					10	** *	***			***						0.
ncan	Umatula																															- 1	0.
ho	Umatillado Coast	T.								***	. 92						.08		02			23	12									***	0.

Table 2.—Daily precipitation for September, 1910. District No. 12—Continued.

															Day	of	mont	h.														
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Oregon—Cont'd.		+	+	+	+																1											
gene	Willamette											T.	10	. 40			03	. 21 T	. 05	T												
irview	Coast	***					.01					T.	. 10	. 02		****	.41	.57					****								****	
Glen	Coast								****			****		. 21			. 10		****		***		****	****		****	****		09		****	
rest Grove	do Willamette Interior Rogue Umpqua Columbia	***					.02		.02			.08		.04				.10			. 10											
et Rock	Interior													. 32			. 16	· · ·	.21	. 50	95	. 05				****						
lice	Rogue							****	****		****	. 10	1.	.00				1.	1.	. 10	. 34											
encoe	Columbia															. 07	. 27					. 09									****	
bbon	Columbia Umatilla Umpqua Coast	···											T	15		. 40			****	.12	.10	. 32										***
endale	Coast	1.			* * * * *				****		. 10						.89	. 98											. 35	. 24	. 14	
enoraold Beach	Coast											****						94			. 02	***							****	T	T.	****
anderonde	Coast	***							****	****	.00	.04		T.		T.	. 10				. 18	T.							T.			
anite	Rogue													. 14					. 10	. 06	. 17								2247			
rass Valley	JOHN Day					* * * * * *	clees		0.000							-	0.0		PER	0.0	FW1					4.						
reenhorn	Deschutes															- 2.5																
umboot	Snake Deschutes Snake Columbia Umpqua Deschutes Willamette	1	19								T				****	T.	-72	. 35			. 13	.06		***								
ardaneappy Home	Umpqua												.08	.26					****	. 05	T.										2 + 2'4	
av Creek	Deschutes													. 17		. 10	.21	20	10	.06	. 25	. 03							****	****	****	
ead Works	willamette	***	* * * * *			* * * * *	****		****				. 14																			
end Works	WillamettedodoColumbiaUmstillaGrande RondeColumbiaWillametteGrande RondeSpake	0	M				T.							. 02		. 00	.11					. 10	T							T.		
ermiston	Umatilla								- * * *		. 07					. 20	. 10				.10	T.		000								
ilgardood River	Columbia					T.	***										T.				. 45											
oover	Willamette										. 03					91	19	T.			. 91	11							.01			
owardville Station untington	Grande Ronde				** ***				****				.02					. 00														
ex Mine	John Day														. 01	.00	35		780		T.	.00										****
onside	Grande Ronde Snake John Day Snake Rogue Grande Ronde												T.	4		I.	. 90		.10	. 15	.31											
cksonville	Grande Ronde		35														. 70	.40	. 10			.40	0							***		
lamath Agency	Klamath	***								****			91		. 02		. 02	36	. 15	04	****						***			****		
lamath Falls	Grande Ronde Klamathdo Grande Ronde	***		05	** ***	: :::										.13	3 . 24		. 02			.00	5					,				
akeview	Grande Ronde Pitt Rogue" John Day Pitt Willamette do Deschutes do Umatilla																	97		99	91	**								****	****	****
lyglen	Rogue"	***							****	****	****	****	31		. 08	. 2	. 07		.04		.04	.00	5								T.	
ong Creek	Pitt	***														.3	1 . 10		. 20	.34	.09	.0	1									
ong Valley cKenzie Bridge	Willamette								T			T		- 10			1. 28	40	. 11	.08	.01									. 02		
eMinnvilleadras	Deschutes													. 2		T.	.04			. 03	. 30	T.							T.			- * * *
aury	do													. 52		. 2	. 18			. 15	. 10								T.		****	2000
eacham	Umatilla. Interior Drainage Deschutes. John Day				** ***					****									.30	.01		***										
errilletolius	Deschutes													. 14			T.	. 02		.11	. 45	. 10	0								****	
ikkalo	John Day	***										****	***	- KS			78		****		.03	. 10										***
iller Prairie	John Day	***		** **	**	* * * * *	0	6			. 50	. 05		.01			. 62	. 28	. 02		.06								T.	.04		
onroe	Willamettedo										99	10					92	1 95			****									. 62	.03	***
ountainhome	Columbia	***		** **	** ***			0	T.		.03			.00	T.	. 0	2 1. 15	. 17		.01	. 45							. T.	T.		****	
ount Hood	Columbia	1.5																	DEX N X											T	T.	***
ountain Park	do																		****		. 10								1	1		
lusick	Rogue					* ***								. 70	B		. 25	.46	. 20	.07	. 13								09	***	09	
ewport	Coast	***									. 00			9			40		- 44		.02			1	* * * * *	1:::			. 02	. 10	.02	
choco Creek	Deschutes	***		**										. 4		.0	2			. 03	. 22	.0	4									
wyhee	Owyhee												T			- 10	5	. 88	T.	.08	****		T						.01			****
aisleyaulina	Southeast Drains Deschutes					* * * *			****					1:1:	2	.2	6 .08															
endleton	Umatilla		01													.00	2 .33	T.	***			.4	3							****		***
eraist	Rogue		07										***	2		0	4 .44	****	. 30	. 40	. 12	.1	6									***
lot Rock	Umatilla. Rogue Umatilla. Southeast Drains Columbia. Willamette. Deschutes Walla Walla.	ge											T.			.3	6 . 20	T.	.07		T.									10	T.	***
ompeli	Columbia						1	2			T.	00		T			54	.05			T.	T							. 01	T.	. 04	
ortland	Deschutes			0 0 0 0							.01			. 3	9 . 25	1.1	2				. 02								T.			
ower House	Walla Walla			** **									.xx	***		T.	. 58		T.			. 1.	3			***	* * * *			****		
P" Ranch	Southeast Drains	180.											1	9		0	4 00				. 22	T.										1000
rineville	Rogue																													***	****	
amsey	Columbia	*** **															0 00	***	***	40									T			1
ange	Columbia	***												0	4	.1	7 .27					.0	6								***	
eston	Columbia Umpqua													· 2	1	1	0 71	49	. 15	T.	T	.0	\$									
ichland	Umpqua Snake Deschutes		**	**									.3	3		.2	0		. 05	. 05									. T.			
iverside	Malheur																	90							0						0000	
ock Creek	Deschutes Malheur Willamette Umpqua Deschutes Willamette		** **	**	** ***		1	o T.			***		T	.9	0	T	.06	. 04	.01	. 52	.04											
oseburg osland	Deschutes Willamette										NEX.			3						.41	. 38	.0	4 T.							01	T	
alem	Willamette						T.		T.		T.	. 02		. 0	1		. 44	. 42		I.	. 36									.01		
eneca ilver Lake	Southeast Drains	rge																														
iskiyou	Southeast DrainsdoRogueDeschutes		** **		** **								***					01	.40	.02	.07											
isters	Deschutes	****								***				. 2				.00	.01		. 40											***
partatafford	Deschutes						1	6			.10	3				. 6	6 .27			. 04									. 01			
tarkey	Grande Ronde			** **	*								0			9		.20		09	. 70				* * * * *							
ugar Creek	Willamette						. 3	6	T			.00					. 25	. 58	3	T.	. 10									T.	T.	
ummit Prairie	Willamette. Grande Ronde. Deschutes. Willamette. Deschutes John Day. do. Snake. Columbia													0	8	2	0 .12			. 02	.20			* * * *		* ***			T	T		***
usanville	John Day	****	** * *	** .			* * * *							.0	7	.0	- 44			.42	.62	T.										
amarackelocaset	Snake		**	** **	**											5	0 .3)			. 20			3	0							
he Dalles	Columbia Umatilla				1	1	1	1	1		1	1	1			1	1		1	1	. 04	. 0	1			Acres		2000	Acres		de e e e	1000

TABLE 2.—Daily precipitation for September, 1910. District No. 12—Continued.

																Day	y of	mo	nth.														
Stations.	River basins.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Oregon - Cont'd.	Coast																-				1												
nedo	do		****		****		****																										
natilia	Columbia					***																											
ity	Snake																																
	Malheur																T.																
alley Falls	Malheur																																
Allace Orehard	Willamette																											T.					
alloupa	Grande Ronde			****	****											. 20	.38	. 10			. 12	. 16											
allowa	do																																
mic	Deschutes																																
ermspring	Columbia											****																				****	0
lches	do																													.11			
ton	Walla Walla	40	T.																												T.		1
lliams	Rogue																****									****							
nna	Interior Drainage									****				Axxx		T			. 25	. 30	. 05			****									

0.67 3.01 0.36 0.69 0.86 1.25 1.16 1.13 1.12 1.12 1.12 1.12

TABLE 3.—Maximum and minimum temperatures at selected stations, September, 1910. District No. 12, Columbia Valley.

		Mor	tana.														Ide	aho.										
		Kalispell.		Missoula.		Afton, Wyo.		Bolse.		Bonner's Ferry	200	Hotspring.		Lewiston.		Mackay.		Meadows.		Pocatello.		Salmon.		Shoshone.		Vernon.		Wallace.
	Max.	Min.	Max	Min.	Max	. Min	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max	Min.	Max.	Min.	Max.	Mi
	52 61 60 55 62	44 37 42 46 45	69 68 68 56 63	46 43 37 45 39	76 75 72 59 70	35 28 35 38 24	71 74 79 68 80	52 45 45 50 46	74 78 69 70 56	45 35 49 45 49	85 75 80 86 82	51 45 48 51 45	68 73 72 74 80	52 47 47 55 48	72 74 71 75 75	41 39 38 32 40	68 76 75 70 74	42 30 30 43 26	71 74 75 64 74	50 42 45 44 36	68 74 81 65 80	42 32 31 40 25			71 72 74 60 71	35 34 36 36 28	64 72 68 61 65	44 34 41 41
	55 51 63 64 58	42 38 36 34 41	61 54 60 77 61	45 38 43 40 39	77 78 80 85 72	33 37 30 30 30	68 72 84 84 66	49 48 46 50 47	55 60 70 66 64	39 41 39 30 32	73 73 85 85 85 82	51 41 44 43 50	68 71 79 80 67	49 43 50 47 48	78 72 85 83 78	39 29 34 40 44	64 70 79 82 70	37 26 29 31 32	76 77 82 87 71	54 47 36 41 54	74 69 73 81 71	40 47 37 29 28			72 72 74 81 67	34 40 39 37 44	63 57 65 70 64	45 40 43 36 38
	56 60 69 72 79	37 31 34 39 52	58 59 66 77 82	41 44 49 41 51	60 70 74 77 78	40 42 40 33 42	64 74 78 79 71	36 39 53 54 61	66 72 78 81 81	33 37 36 38 45	65 79 80 80 80	40 49 50 59 59	72 78 83 89 78	39 41 57 49 60	75 75 77 67 72	33 35 46 43 42	67 73 78 74 75	26 26 38 41 51	59 71 80 76 81	44 47 50 57 54	67 68 78 80 83	29 38 38 48 57			68 69 80 71 80	42 37 45 50 46	64 64 71 81 82	35 34 46 43 60
	76 74 75 80 78	59 52 43 43 51	81 76 76 81 79	58 52 50 45 51	74 76 78 83 79	44 43 43 46 40	74 71 77 92 79	56 52 51 58 61	78 77 80 84 84	56 49 37 39 41	81 76 76 92 88	60 53 52 57 57	75 64 75 83 90	60 51 47 51 63	71 70 76 79 71	48 45 47 42 45	63 69 67 89 77	54 50 44 48 47	79 81 76 85 81	57 56 54 49 58	88 73 80 86 77	56 48 48 40 47			78 80 81 84 81	51 50 48 40 45	79 73 79 87 82	57 56 41 43 53
	65 66 70 52 48	50 47 43 32 25	70 69 73 68 56	50 51 40 40 30	75 68 67 77 66	40 34 32 32 32 36	64 72 78 74 67	52 45 53 49 38	73 73 72 63 58	55 51 45 38 24	76 72 80 84 72	48 46 46 47 45	70 78 83 72 68	56 55 51 49 38	72 62 67 72 61	42 39 40 38 35	68 75 76 77 70	42 40 37 36 26	67 66 74 77 63	52 45 43 52 39	67 67 74 69 63	40 47 34 49 30			68 64 68 71 63	50 39 37 34 28	69 60 70 61 62	53 40 44 43 29
	58 65 64 58 64	28 34 41 41 42	66 73 74 69 75	30 32 40 43 48	65 75 77 79 75	15 21 37 40 27	73 83 76 76 82	41 44 50 46 46	64 72 68 53 60	32 34 40 34 42	75 84 83 80 82	36 40 45 48 45	73 78 71 64 80	38 43 47 48 50	62 71 74 71 72	30 34 39 40 42	72 79 77 72 76	30 23 38 35 37	70 79 82 73 79	32 40 53 53 45	71 77 71 80 83	23 26 32 34 51			64 72 78 72 72 72	26 26 37 35 36	65 74 67 64 68	29 35 39 46 47
	63.7	41.0	68.8	43.4	73.9	35.2	74.8	48.8	70.0	40.3	79.7	48.7	75. 2	49.3	72.7	38.8	73. 5	36.5	75.0	47.6	74.6	38.9			72.6	38.8	69.3	42.
-															Washi	ngton.												
		Aberdoen.		biaine.		Colville.		Nosmos.		Lakeside.		North Head.		North Yakima.		Areasa.		rort Crescent.		Seattle.		Sixprong.		Spokane.		т веопия.		I atoosn Island.
1	1	Min.	Max.	Min.	Max.	Min.	-	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	1	Max.	Min.	Max.	Min.	Max.	Mir
	65 67 78 69 64	46 45 60 58 47	65 68 68 65 66	43 42 51 40 49	75 80 74 76 72	50 35 42 41 50		*****	82	52 48 54 50 55	54 62 57 60 56	52 50 50 52 51	74 78 82 77 77	53 50 43 51 50	75 78 83 89 87	45 47 47 45 46	56 66 60 56 57	41 39 40 38 47	68 75 62 67 55	51 52 51 52 50	76 74 79 83 76	48 50 57 47 47	66 75 72 73 69	50 42 50 49 53	66 74 63 68 60	52 48 51 50 50	54 56 55 55 56	46 44 48 46 49
	61 70 64 66 67	45 51 43 41 39	64 76 70 64 64	50 43 52 40 37	53 70 71 71 68	35 32			64 69	51 50 50 43 47	58 69 60 59 54	51 50 51 51 51	68 67 71 75 68	42 47 53 40 40	83 65 71 73 71	45 48 50 37 34	59 63 56 58 55	43 44 43 39 46	61 69 67 65 61	52 50 55 47 51	77 76 73 77 70	51 54 52 50 46	62 62 69 71 65	46 46 49 41 45	61 68 68 67 62	52 46 54 47 52	57 66 62 58 54	47 47 48 48 48
	65 74 69 64 65	38 39 39 47 50	74 78 82 68 66	47 45 46 42 44	68 74 78 87 80	32 36 35			74 77 81	47 50 50 49 51	59 73 62 55 52	50 57 52 49 49	69 72 76 82 78	43 50 61 50 50	70 72 74 86 81	32 43 44 52 50	62 68 74 68 51	45 43 43 40 42	59 69 75 70 71	51 49 51 49 50	70 73 78 80 79	40 53 60 47 52	64 67 74 84 80	38 47 56 50 54	59 66 73 72 69	50 54 46 46 45	59 68 63 53 50	48 50 48 46 47
	63 65 74 79 62	50 43 52 50	62 68 64 75 75	45 52 40 41 47	81 75 82 89 90	49 37 36				57 52 48 51 57	54 54 56 69 54	50 52 51 51 50	73 71 81 89 85	51 42 50 53 65	76 87 88 87 89	50 51 50 46 43	53 58 61 83 59	46 43 38 45 48	59 64 68 72 71	51 51 49 53 56	74 69 79 89 80	59 44 47 53 60	72 69 78 87 80	54 49 46 48 60	56 64 67 72 72	51 52 45 51 55	51 55 58 63 68	47 49 48 48 52
1	64 68 62 64 74	51 52 50 40 54	64 62 65 64 61	50 55 42 42 31	86 70 76 65 67	50 46 42			67 77 68	61 50 51 49 40	54 56 54 56 60	51 53 50 50 47	74 73 79 75 65	60 57 48 47 37	72 72 74 72 71	42 51 47 45 37	58 56 55 58 52	53 50 48 36 36	59 65 62 60 69	56 52 50 51 47	65 75 84 73 68	57 51 54 49 47	68 69 73 64 60	56 53 49 41 35	62 65 64 62 69	56 55 50 50 43	55 54 54 56 53	51 50 49 48 46
	64 65 62 63 58	48 43 42 47 48	65 60 61 62 85	51 41 51 46 44	72 73 68 67 55	38 43 41 40			69 71 68 62	46 46 54 50 45	58 56 59 56 56	48 47 51 52 52	72 74 74 75 72	38 48 52 42 46	70 75 76 69 68	34 33 38 42 44	57 56 59 57 51	45 40 47 45 43	63 60 61 59 57	53 49 52 50 51	78 78 78 77 78	40 47 45 47 45	68 76 69 33 65	36 40 50 46 49	66 63 62 60 58	51 50 50 49 48	55 53 55 56 56	47 45 48 50 48
		46.7		45.0	73.8	90.4		*****					-4.0	40.6	76.8	44.9	FO. 4	49.0				50.0	70 4	47.6			56.9	47 0

Table 3.—Maximum and minimum temperatures at selected stations for September, 1910. District No. 12—Continued.

		48	-										On	gon.										
Date.		Walla Walla, W		Ashland.		Baker City.		Eugene.		Gold Beach.		Hermiston.		Marshheld.		Portland.		Prineville.		Roseburg.		The Dalles.		Vale.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min
1	77 82 75	54 46 56 53 54	78 85 82 79 85	45 49 53 42 47	*****		82 79 72	42 45 49 45 40	64 72 70 66 66	51 44 43 41 50	77 79 86 79 80	57 44 41 52 47	65 72 66 66 63	44 46 46 42 47	73 82 72 73 64	50 56 54 53 50	75 80 74 73	30 32 29 30	76 84 82 75 76	46 47 48 47 42	80 81 80 77 76	48 49 47 54 50	76 80 87 75 88	40 37 39 35 31
6	71	49 46 46 48 50	71 72 73 78 76	46 41 41 47 45			71 72 71	50 38 43 44 42	62 61 63 64 62	51 38 38 39 48	76 74 75 79 75	52 37 50 38 51	66 66 66	39 39 43 40 42	60 73 74 69 63	49 45 53 51 50	64 72 74 71 73	33 25 27 31 30	68 71 75 72 68	45 38 39 44 42	67 72 73 77 69	56 43 49 47 50	80 76 84 92 86	50 45 33 39 55
1	76 76 77	46 44 57 52 55	67 71 64 72 77	37 45 47 39 45			62 76 71	39 40 50 46 44	60 60 61 62 59	44 44 45 40 41	71 77 78 81 77	37 38 58 41 47	64 67 67 67 57	38 46 47 44 47	60 75 63 74 76	46 52 52 46 50	66 68 63 75 73	23 29 44 29	66 70 64 76 78	40 47 48 49 41	72 76 75 80 78	45 54 54 43 46	71 80 84 77 74	35 31 45 42 59
6	73 80	52 49 48 54 63	70 64 61 68 71	48 45 48 46 45	*****		76 68 62 67 76	52 50 50 50 50 52	64 66 65 70 58	47 - 42 - 43 - 53 - 51	74 62 72 84 79	50 43 41 46 57	67 67 69 79 59	49 45 45 48 52	57 61 73 80 65	52 51 50 50 56	66 65 75 78 72		64 64 66 81 63	49 50 50 54 51	68 69 78 86 77	52 42 45 46 64	75 68 81 87 82	56 49 49 60 52
1	76 80 71	57 53 55 49 38	74 80 84 74 78	48 49 51 49 51	******		72 74 71 70 68	55 51 55 57 48	59 62 64 64 72	51 42 42 51 37	79 78 84 79 77	57 46 47 47 32	60 70 61 63 66	52 53 51 45 39	65 75 68 63 74	56 53 53 49 47	57 77 81 78 70			51 50 49 44 41	73 79 79 72 70	59 49 50 54 39	82 79 84 83 75	52 42 41 44 39
6	75 77 75 66 80	45 52 58 52 54	78 78 76 80 81	52 49		*****	900	39 43 42 48 45	60 56 63 67 63	41 41 39 39 45	79 79 73 75 74	42 52 49 49 49	65 68 68 72 64	42 45 47 45 50	71 71 63 65 73	47 51 52 51 51 53	77 81 74 78 83	******	-	41 42 49 46 46	76 76 72 69 78	39 45 59 46 45	74 79 85 81 83	37 31 40 38 41
Means		51.2	74.9	46.3			71.5	46.5	63.5	44.1	77.1	46.8	66.1	45.3	69.2	50.9	73.0		73.2	45.9	75.2	48.9	80.3	42.9

Min.

42.9

PAPERS ON CLIMATOLOGY IN RELATION TO AGRICULTURE, TRANSPORTATION, WATER RESOURCES, ETC.

THE EXPERIMENT STATION AT WAGON WHEEL GAP, COLO.

By H. C. FRANKENFIELD, Professor of Meteorology.

Of the many problems relating to the conservation of the natural resources of the United States, none has been productive of such diversity of opinion, and none has been the subject of more discussion than that relating to the effects of forestation or deforestation upon water supply and water control. Those who have followed the discussions in the various conventions, meetings, and publications are aware that they have at all times been vigorous, and, unfortunately, at times more or less acrimonious. The line of cleavage is sharply defined and the advocates of neither side are willing to admit that there is much soundness in the position assumed by the other. Apparently there is not middle ground of sufficient area for both sides to stand securely upon, and the only hope of satisfactory compromise lies in the mutual admission that the whole general question is more or less problematical, and that insufficient data and different methods of discussing the same may have operated to produce widely divergent conclusions. Further research and impartial investigation are necessary in order that the real truth may be disclosed, and the establishment of the truth upon the firm foundation of accurate and unquestioned data must inevitably result in incalculable benefit to all students of the question of water supply and other allied problems and to the country at large. Therefore, the Weather Bureau and the Forest Service of the Department of Agriculture have, by permission of the Secretary of Agriculture, mutually agreed to cooperate in an exhaustive study of the whole question of the effects of forestation and deforestation upon water supply and control and upon other meteorological conditions, and in pursuance of this agreement it was determined to select two small watersheds in the same locality that should be nearly alike as to topography and extent of forestation, and with a running stream in each. The Forest Service after careful investigation suggested as a suitable field two small watersheds in the Rio Grande National Forest in southwest Colorado. Their exact location is between one and two miles west of the Wagon Wheel Gap station of the Denver and Rio Grande Railroad, and 313 miles by rail from Denver (latitude 37°45′ N., and longitude 106°50′ W.). The selection was agreed to by the Weather Bureau, and, after inspection, approved by the United States Geological Survey as being admirably adapted for the proposed work. The area of the south watershed is 222.7 acres and that of the north watershed 212.3 acres.

The Rio Grande in the neighborhood of Wagon Wheel Gap flows to the southward in a narrow valley between two ranges of the Rocky Mountains. The range to eastward of the river, rises rather abruptly to a plateau at a height of 11,000 feet, beyond which another abrupt rise reaches above timber line to a height of approximately 14,000 feet above sea level. The range to the westward of the river rises gradually to a height of 11,000 feet. This range, as seen from a distance, is corrugated with watercourses, similar in general character, and all leading eastward from near the top of the range toward the river.

The soil of the watersheds under study is sandy with a few isolated rock slides. The slopes average about thirty degrees, and there are no perpendicular cliffs. Each watershed contains two distinct slopes, that part to the south of the stream sloping toward the north, and being fairly well timbered, while that part sloping toward the south is less heavily timbered, probably because the greater evaporation on the southern slopes reduces the supply of moisture to a point below that required for normal growth. This change in the character of the vegetation on the different slopes is evident throughout the region.

The lower portions of the two watersheds, for a distance of a mile from the river, are grassed over with wild bunch grass, except in the immediate vicinity of the streams. For this reason the dams for the measurement of streamflow are located above the bunch-grass region, well into the forest area.

The most widely distributed of the forest cover is the aspen, which in places where the slope is slight, or where protection from evaporation exists, grows to a height of 30 feet, and is from 4 to 6 inches in diameter. In localities exposed to strong evapration the aspen is dwarfed, and may be only 10 feet in height. Below the 10,300-foot level contour lines the forest is mostly aspen, Douglas fir, balsam, and some Engleman spruce. In many portions of the aspen forest there are evidences of young fir and spruce reproduction. From the 10,300 to the 10,800-foot contour line aspen predominates with spruce, cone-pine, and fir intermingled.

Above the 10,800-foot contour line is an area that was burned over 17 years ago. This area was evidently the most heavily timbered portions of the watersheds at that time, as indicated by the dead, standing timber and by the fallen logs, practically all Engleman spruce. A continuation of the same forest nearby, which for some reason was not touched by the fire, affords a good idea of the density of this Engleman forest before the fire. There are now some scattered stands of aspen in the burned-over region.

The work of preparation was begun in June of the present year, but owing to the many difficulties occasioned by the isolated location of the forest, it is very probable that the actual observational work can not be inaugurated until about the beginning of the coming winter. The details of the proposed campaign are as follows: Identical observations will be taken continuously and simultaneously over each watershed, and will be carried on for a series of years, possibly as many as ten. In any event the period will be of sufficient length to cover the widest variations of meteorological conditions. At the conclusion of the first period of observations one of the watersheds will be deforested and a second series of observations, equal in length to the first, will be made. The data obtained will be carefully tabulated and analyzed from time to time, and at the end of the second series of observations a comparative study and discussion of both sets of data will be made. It is believed that this method will not be open to serious objections. The equipment and personnel will be of the highest character, the observations will be made jointly by representatives of the Weather Bureau and the Forest Service, and the data should speak for themselves.

Stations of observation will be located as follows:

- 1. A principal station of observation 400 feet north of the main office building, (elevation about 9,250 feet above sea level), between the two watersheds, and at the foot of the timbered areas, looking east toward the Rio Grande, which runs at the foot of the slope in a southerly direction.
- 2. One station on the right bank of the south stream, approximately 1,500 feet above the principal station, and about 9,600 feet above sea level.
- One station on the right bank of the north stream, approximately 3,500 feet above the principal station and about 9,500 feet above sea level.
- One substation on the left bank of each stream almost directly opposite the right bank station.
- One substation at the summit of the divide (elevation about 11,100 feet above sea level.

This makes six stations in all and observations will be made of the following phenomena:

Temperature of air. Temperature of water. Temperature of soil. Relative humidity.

Wind velocity. Precipitation. Sunshine. Clouds. Evaporation. Snow on ground.

The instrumental equipment of each station will be as follows:

Principal station.
Barometer, mercurial.
Barograph.
Dry thermometer.
Wet thermometer.

Maximum thermometer. Minimum thermometer. Thermograph. Anemometer.

Snow tubes and balance.

Stations on right banks of streams.

Dry thermometer.

Wet thermometer. Maximum thermometer. Minimum thermometer.

Water thermometer.
Soil thermometer.
Stations on left banks of streams.
Maximum thermometer. Minimum thermometer.

Station at top of divide.

Maximum thermometer.

Minimum thermometer. Thermograph.

Anemoscope. Sunshine recorder. Rain gage.

Snow gage.
Rain gage, tipping bucket.
Triple register for wind direction, wind velocity, precipitation, and sunshine. Snow bin.

Thermograph. Anemometer. Anemoscope. Evaporation pans. Rain gage.

Rain gage.

Rain gage Snow bin.

Snow scales (vertical wooden gages), probably to the number of 25 or 30, will be installed at various points throughout both watersheds, and measurements of the actual depth of snow made once each week during the snow season. The water equivalent of the snowfall will also be determined at the same time by weighing a cylindrical section of snow cut out by the snow tubes provided for that purpose

A thorough study of the snow bin observations made during the past two years indicates the need of further experimental work in connection with the apparatus for the measurement of snowfall, and steps are in progress for the installation of a new type of shielded seasonal gage designed by Professor Marvin. The harmful effects of winds are minimized by a double system of wind shields shown to be highly effective in the experiments of Nipher, Hillmann, and others. The gage catches all forms of precipitation, rain, snow, sleet, etc., the measurement being accurately effected by weighing.

A careful study will be made of the effects of erosion, and it

is also proposed to make daily observations of the ground-water level in each watershed. The necessary wells will be bored as early as possible in the spring of 1911.

For the most important part of the work, the measurement of streamflow, there have been built two dams, one in each stream, a short distance above the mouth. These dams, although small, are very substantial structures of timber and concrete, and in each there are two weirs, one of 12 inches with a 2-inch head, and another of 24 inches, placed 12 inches higher. In addition there will be a Friez Water Stage Indicator at each dam so that a continuous discharge record can be obtained with a very small percentage of errors. Hook gages will be used for very low stages.

I am indebted to Mr. B. C. Kadel, Local Forecaster, and Weather Bureau representative in charge at Wagon Wheel Gap, Colo., for the description of the watersheds and surrounding topography. See opposite page for chart showing watersheds referred to above, the location of the several points of observation and the general topography of the region.

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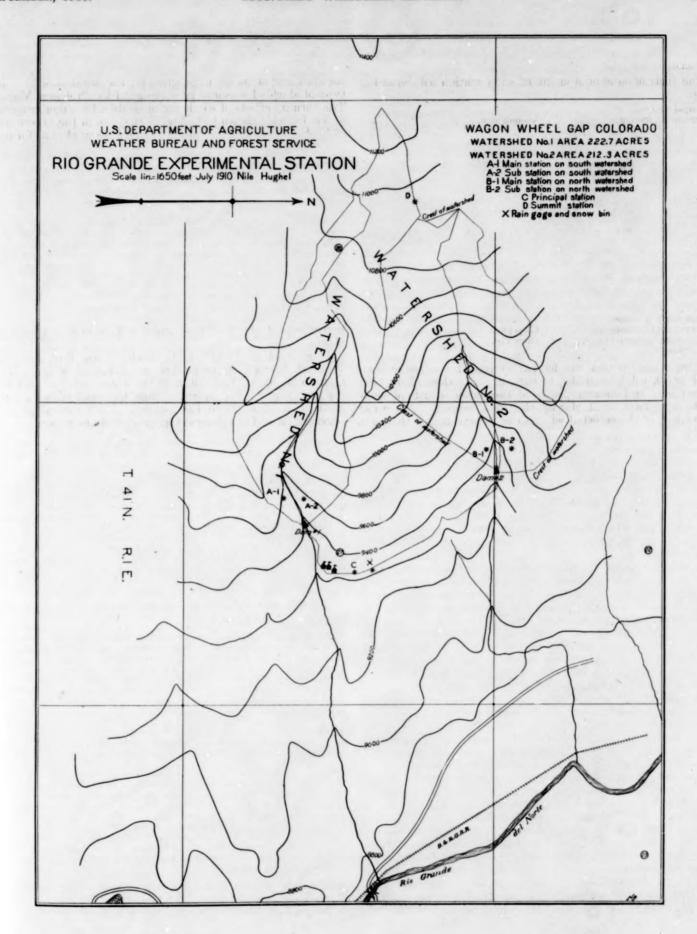
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WEATHER, FORECASTS, AND WARNINGS FOR THE MONTH.

By EDWARD H. BOWIE, in charge of Forecast Division

During the first few days of the month, unsettled conditions with showers and thunderstorms prevailed generally over the country east of the Rocky Mountains. In the South temperatures for the week ending September 5, averaged above normal while in the northern half of the country they were decidedly below normal.

The weekly forecast issued Sunday, September 4, follows:

A disturbance that is moving eastward from the Rocky Mountain region A disturbance that is moving eastward from the Rocky Mountain region will be preceded and attended by unsettled, humid weather and showers and local thunderstorms during the first half of the week in all districts from the Mississippi Valley to the Atlantic coast. This disturbance will be followed by generally fair weather and a change to somewhat lower temperatures, reaching the Eastern States by Thursday. There will be light frosts in the Northwestern States during the first half of the week. Another disturbance will appear in the Northwest by Thursday, attended by showers in that region and the North Pacific States. At the present time there are no indications of a tropical storm in the West Indies.

The storm that moved from the Rocky Mountain region to Maine from the 4th to 7th caused rains generally throughout the country east of the Rocky Mountains and high winds on the Lakes; exceptionally heavy rains occurring in Texas on the 6th. Warnings were issued for high winds in connection with this storm on western Lake Superior the night of the 7th and were extended the following morning to the balance of Lake Superior, Lake Huron, and the northern and eastern shores of Lake Michigan. Advisory warnings were also sent to the balance of Lake Michigan and to the lower Lakes. In connection with this storm it is reported that a car ferry foundered on Lake Michigan on the 8th and a number of persons were lost; storm warnings were displayed, however, when she left port

On the morning of the 7th the most pronounced high pressure area of the season appeared in the Northwest, causing a marked change to cooler weather. It moved slowly eastward and was attended by heavy to killing frosts in eastern Montana and the Dakotas and light forsts in Wisconsin, Minnesota, and Michigan, which were successfully forecast. During the first half of the week, the weather was unusually warm in the Eastern States and was followed during the latter part of the week by a change to cooler.

On the morning of the 6th conditions over the eastern Caribbean Sea were unsettled and a 6 p. m. special from San Juan, Porto Rico, showed a steady fall in the barometer accompanied by high wind. During the night of the 6th, at San Juan, the velocity of the wind increased to 72 miles an hour from the northeast, with lowest barometric pressure 29.76 inches at 7:20 p. m. The center of the storm passed south of the island, causing considerable damage thereon, which was confined largely, however, to the north coast, east of San Juan; great havoc was reported by the telegraph and telephone companies to their lines and considerable damage was caused by phenomenally heavy rain, which washed cane fields and raised rivers to unprecedented flood heights. Rainfall at some stations broke all previous records for intensity, a fall of 13 inches in 12 hours being reported from Comerio. Brisk to high northeast winds, occasionally reaching hurricane force, prevailed over practically the entire island during the late afternoon and the night of the 6th, the highest winds occurring between 7 and 8 p. m., with a secondary high velocity between midnight and 2 a.m. On the morning of the 7th the storm was apparently central southwest of Porto Rico, moving in a west-northwest direction. shipping was advised as to the location, intensity, and probable direction of movement of the storm. On the 8th the storm was apparently central south of the east end of the Island of Cuba, and on the 10th was near the north coast of Yucatan and moving northwest. It reached the Texas coast near the mouth of the Rio Grande River on the 14th. High winds and unusually

high tides were reported on the Louisiana and Texas coasts. Torrential rains were recorded along the Texas coast. No wrecks of vessels or loss of lives have so far been reported. Ample warnings were issued in connection with this storm, particularly to Gulf interests affected.

The following is an extract from a report by the district forecaster at New Orleans, La., on the above-mentioned storm:

caster at New Orleans, La., on the above-mentioned storm:

The advisory warnings relative to the location and probable movement of the tropical disturbance were received daily commencing September 6, and were distributed by telegraph to shipping in ports along the Gulf coast and by wireless to several vessels in the Gulf of Mexico and Caribbean Sea. Among other advices the following was issued on the 13th: "Continue northeast storm warnings 10 p. m. all stations Texas coast. Tropical storm apparently approaching south Texas coast. High northeast to north winds indicated for next 24 hours." The next day the following was issued: "Advisory 9:10 a. m. Texas coast. The tropical disturbance is moving inland near the mouth of the Rio Grande, where it shows considerable intensity this morning. High east winds and dangerous high tides will continue on the coast of Texas to-day and possibly to-night." A wind velocity of 60 miles from the east was reported from Corpus Christi during the 12 hours ending 8 p. m., the 14th, and again at 8 a. m. of the 15th. The tide in the bay at Corpus Christi was higher than for several years. The warnings of the Weather Bureau were so well and efficiently distributed that no loss of life has been reported from the Texas coast and there have been no reports of damage to shipping within the territory that could be reached by the warnings.

The following is an editorial from the Times-Democrat, New Orleans, La., of September 15:

About one week ago the United States Weather Bureau sent out advices warning shipping that a tropical storm had made its appearance in the vicinity of Porto Rico. Daily advices were distributed by wireless to ships at sea and by telegraph to coast stations so that vessels at sea were kept as well posted as to the location, movement, and severity of the storm as the well posted as to the location, movement, and severity of the storm as the vessels lying at anchor in the harbors along the coast. Monday night reports received by the Weather Bureau indicated that the storm was 100 to 150 miles out in the Gulf, south of Louisiana. Tuesday morning the slow rain and gusty winds, which characterize an approaching storm, prevailed over southern Louisiana, and sugar and rice planters were greatly alarmed, because a severe wind storm would have damaged the cane badly and rice being ripe, the grain would have been thrashed out and the yield greatly reduced. With every local prospect indicating the approach of the storm, the United States Weather Bureau sent warnings broadcast announcing that the tropical storm was some distance southeast of the Texas coast, moving northwestwardly toward the mouth of the Rio Grande, and that moving northwestwardly toward the mouth of the Rio Grande, and that brisk winds and high tides would prevail along the Texas coast. Wednesday morning the hurricane was moving inland near the mouth of the Rio Grande, as predicted by the Weather Bureau twenty-four hours previous.

The following editorial appeared in the Daily Picayune, New Orleans, La., September 15:

Notwithstanding the threatening weather which prevailed over southern Louisiana Tuesday no damage was experienced, as the storm passed southward some distance out in the Gulf. However, sugar and rice planters were greatly alarmed. A severe wind storm at this season of the year would lodge the cane and would result in great injury to the rice crop, because few of the rice planters are prepared to flood their rice fields to such an extent as would prevent great damage from high winds. The excellent advices issued from day to day by the United States Weather Bureau in connection with this storm from the date of the inception has been in keeping with its past record. Tuesday morning, long before the storm was being felt at any coast station, shipping, commercial, and agricultural interests along the Gulf coast were advised that the storm was some distance out in the Gulf southeast of the Texas coast, and was moving in a northwesterly direction toward the mouth of the Rio Grande. Yesterday morning the storm was moving inland, with its center near the mouth of the Rio Grande, and the high winds and high tides had occurred along the Texas coast, as though conditions had been its center near the mouth of the Rio Grande, and the high winds and high tides had occurred along the Texas coast, as though conditions had been made to fit the Weather Bureau's warnings. The value of a service which can foretell where such storms will strike the coast, as was done in this case, can not be estimated. These are but a few of the many great services rendered the public by the Weather Bureau since Prof. Willis L. Moore became its chief. He has given special attention to the improvement of forecasts and warnings, and the general public can testify as to the marked degree of success which he has attained.

A weekly forecast issued Sunday, September 11, follows:

An extensive area of high barometric pressure that has moved to the far Northwest from Alaska will advance eastward over the United States attended by unseasonably cool weather the first half of the week in all sections from the Plains States to the Atlantic coast, with frosts probable in the Northern States from the Missouri Valley to the interior of New England. Preceding this change to cooler, the weather will be unsettled with showers from the Mississippi Valley to the Atlantic coast and in the west Gulf States. Another disturbance will appear on the north Pacific coast Monday or Tuesday and move eastward, attended by unsettled weather and showers and preceded by rising temperature. This disturbance will reach the Eastern States by the close of the week.

On the 11th and 12th warnings of high northwest winds were issued for the Great Lakes, except Ontario, and they occurred as forecast. Another area of high pressure that appeared in the Northwest moved eastward from the 12th to 16th, causing frosts in the Northwest, the upper Mississippi Valley, the Lake region, and interior of New England. In connection with a disturbance that appeared in the extreme West on the 13th rains occurred over the Pacific States, the Rocky Mountain region, the northern Plains States, and thence eastward over the upper Mississippi and Ohio valleys, and the Lake region. There were well-distributed rains in California, in connection with this storm, for the first time in several months. During the first half of the week scattered showers occurred in the Lake region, Ohio Valley, along the Atlantic coast, and over the Southwest, but during the latter half of the week but little precipitation occurred in any part of the country. For the week, as a whole, the temperature averaged below the normal over the Lake region, Ohio Valley, and Atlantic coast districts, and over the Pacific States from central California northward; in other parts of the country temperatures averaged low for the season.

Previously to the 13th, a disturbance apparently developed to the eastward of the Lesser Antilles and moved thence in a northwest course. On the 16th wireless reports showed its presence a considerable distance off Cape Hatteras; and on this date advisory warnings of high northeast winds off the Atlantic coast from Cape Hatteras to Cape Cod were issued. This disturbance moved north-northeast a considerable distance off the middle Atlantic coast and on the 18th was off the Newfoundland Banks. Strong north and northeast winds prevailed along the middle Atlantic and New England coasts, while this storm was

passing northward.

The weekly forecast issued Sunday, September 18, follows:

The general pressure distribution over the North American Continent and the adjacent oceans is such as to indicate that the temperature over the greater portion of the country during the week beginning September 19 will average above the normal for the season. A change to somewhat lower temperature will overspread the New England and Middle Atlantic States Monday, followed by rising temperature Tuesday and several days thereafter. A disturbance that now covers Alaska will advance east ward along the porthern border and reach the Atlantic States. the northern border and reach the Atlantic States Thursday or Friday; this disturbance will be followed by cooler weather, the change to lower temperature appearing in the Northwestern States by Wednesday. Generally fair weather is indicated for the Southern States.

A disturbance that appeared in the Northwest on the 21st, advanced slowly eastward, attended by showers and thunderstorms, and reached the Middle Atlantic States on the 24th (Friday). A high pressure area advanced along the northern border from the 21st to 24th, attended by frosts in New England and freezing temperatures in Vermont. It is interesting to note in this connection that the coldest weather of the season was reported from the Alaskan stations on the 21st and 22d. On the 21st the lowest reported was 10° from Tanana and 8° from Eagle. On the morning of the 21st there were indications of a disturbance southwest of St. Kitts, W. I. This storm recurved to the northward and was next observed near the Island of Bermuda on the morning of the 25th, apparently moving northnortheast. The average temperature for the week ending the 26th was slightly below the normal along the northern border from the Rocky Mountains eastward to New England; over remaining districts the temperature was above the seasonal

average, departures being as much as 8° to 12° over Oklahoma. northern Texas, and Arkansas.

The weekly forecast issued Sunday, September 25, follows:

The weekly forecast issued Sunday, September 25, follows:

A hurricane that was central Sunday morning near and immediately east of Bermuda will move north-northeast and cause dangerous winds and stormy weather during the next several days over the North Atlantic steamship routes. On Sunday norning advices concerning this disturbance were sent the principal ports on the Atlantic coast and wireless telegraph stations were requested to advise vessels at sea of the position and direction of movement of this storm. Some indications were shown by reports from the West Indies of a disturbance Sunday east of the Windward Islands.

In the United States the weather east of the Rocky Mountains will be unsettled, with rains, within the next three days, attending the eastward movement of a disturbance from the southwest; this disturbance will be followed by somewhat cooler weather, which will overspread the Middle West Monday and Tuesday and the Eastern States Wednesday. Another disturbance has formed over Bering Sea, whence it will move eastward across the United States, attended by showers and unsettled weather, and reach the Atlantic States by the close of the week. This disturbance will, in all probability, be followed by a marked change to cooler weather in all parts of the country east of the Rocky Mountains.

A disturbance that appeared in the Southwest on the 24th

A disturbance that appeared in the Southwest on the 24th moved northeastward, attended by an extension area of showers and thunderstorms, to the mouth of the St. Lawrence on the 28th. It was followed by an area of high pressure that caused frosts in South Dakota, Nebraska, and Kansas on the 27th. Another disturbance appeared in the Northwest on the 28th and moved eastward along the northern border. The month closed with temperatures about or slightly above normal.

Average relative humidity and departures from the normal.

Districts.	Ауегаде.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England Middle Atlantic South Atlantic Florida Peninsula East Gulf West Gulf Ohio Valley and Tennessee. Lower Lakes Upper Lakes North Dakota Upper Mississippi Valley.	81 78 82 78 76 71 78 79 80 72 78	0 + 1 + 2 - 4 0 - 3 + 6 + 6 + 3 + 6 + 6	Missouri Valley Northern slope Middle slope Southern slope Southern Plateau Middle Plateau Northern Plateau Northern Plateau Middle Pacific Middle Pacific South Pacific	73 66 64 59 43 44 49 80 62 65	+ 7 +11 + 6 - 4 + 4 + 6 - 3 + 8 - 1

Average cloudiness and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England Middle Atlantic South Atlantic Florida Peninsula East Gulf West Gulf Ohio Valley and Tennessee Lower Lakes Upper Lakes North Dakota Upper Mississippi Valley	5. 5 4. 9 4. 6 4. 7 4. 1 3. 3 5. 2 5. 1 5. 4 5. 0 5, 1	+ 0.3 + 0.3 - 0.1 - 0.7 - 0.5 - 0.9 + 0.8 + 9.3 + 0.2 + 0.6 + 0.8	Missouri Valley Northern slope Middle slope Southern slope Southern Plateau Middle Plateau Northern Plateau North Pacific Middle Pacific South Pacific	4.8 5.0 4.1 3.7 2.3 2.6 4.3 6.0 3.8 3.0	+ 0.8 + 1.0 + 0.7 - 0.1 - 0.2 - 0.3 + 0.7 + 0.7 + 0.4 + 0.4

Maximum wind velocities.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Corpus Christi, Tex Do Denver, Colo Galveston, Tex Mount Tamalpais, Cal Do Do	9 14 25 9 6 7	59 61 51 54 51 51 50	ne. e, n. ne. nw. nw.	North Head, Wash Point Reyes Light, Cal. Do Do San Juan, P.R Do	29 11 12 16 6 7	52 60 55 53 72 50	s, nw, nw, nw, ne,

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Average temperat	tures a	nd departi	ires from th	e normal.		Average precipitation as	nd dep	artures fr	om the n	ormal.	
	of sta-	Average tempera-	Departures	Accumu- lated	Average		of sta-	Ave	rage.	Depa	arture.
Districts.	Number	for the current month.	for the current month.	departures since January 1.	departures since January 1.	Districts,	Number of tions.	Current month.	Percent- age of normal.	Current month.	Accumu- lated since Jan. 1.
1001301					0 01 .		11	Inches.		Inches.	Inches.
nd	12	60,6	- 0.1	+13.4	+ 1.5	W P 1 - 1	**	2,47	79	- 0.7	- 4.0
ntie	15	68.4	+ 2.1	+11.1	+ 1.2	New England	11	2.52	78 78	- 0.7	- 4.5
tie	10	75.0	+ 1.8	+ 4.3	+ 0.5	Middle Atlantic	13	2.92	62	- 1.8	- 5.3
insula*	8	79.6	+ 0.4	- 2.5	- 0.3	South AtlanticFlorida Peninsula*	11	3.27	43	- 4.3	-10.3
	11	79.6 77.9	+ 3.1	+ 2.1	+ 0.2	Florida Peninsula*		2.17	10	- 1.7	- 6.2
	10	79.6	+ 4.2	+ 8.6	+ 1.0	East Gulf	11	2.17	56 79	- 0.7	- 6.2
and Tennessee	13	71.0	+ 2.6	+ 1.9	+ 0.2	West Gulf. Ohio Valley and Tennessee	10	3, 25	114	+ 0.4	
and remainder.	10	62.4	- 0.6	+ 6.7	+ 0.7	Ohio Valley and Tennessee	10	2.87	104	+ 0.1	
	12	58,5	- 0.4	+18.6	+ 2.1	Lower Lakes	10		94	- 0.2	- 1.8
***************************************	8	54.9	- 1.5	+22.1	+ 2.5	Upper Lakes.	12	3, 10	119		- 4.9 - 6.1
ssippi Valley	14	65.1	+ 0.2	+10.1	411	North Dakota*		1.85			
lley	19	65.8	+ 0.5	+15,3	117	Upper Mississippi Valley	15	7.21	97	- 0.1	- 6.8
ope		56.7	- 0.8	+19,6	+ 2.2	Missouri Valley	13	4.46	175 126	+ 1.8	- 2.6
0	Ä	56.7 70.0 77.5 77.2	+ 2.4	+17.8	+ 2.0	Northern slope	9	1.45	126	+ 0.3	- 2.5
pe [®]		77. 6	+ 4.4	+15.3	+ 1.7	Middle slope	6	1.04	54	- 0.9	- 5.3
ateau*	11	77.0	+ 2.9	+14.5	+ 1.6	Southern slope*	8	0.83	30	- 1.0	- 9.8
atenu	10	62.5	+ 2.6	+12.8		Southern Plateau*	11	0.65	62	- 0.4	- 2.5
eau*	10	62.0			+ 1.4 + 0.9	Middle Plateau*	11	0.95	146	+ 0.3	- 3.7
ateau*	9	58.4 56.2	- 1.1 - 0.7	+ 8.4	- 0.3	Northern Plateau*	10	1.19	134	+ 0.3	- 2.4
10		36.2	- 0.7	- 2.9	- 0.3	North Pacific	7	1.65	65	- 0.9	- 3.9

Regular Weather Bureau and selected cooperative stations

+ 1.6

+ 9.6

Regular Weather Bureau and selected cooperative statio

RIVERS AND FLOODS.

By Prof. H. C. FRANKENFIELD, in charge River and Flood Division.

Drought conditions continued during the month over that portion of the country extending from Virginia northeastward, seriously threatening the water supply of many cities, and it was not until after the beginning of the third decade of the month that the situation was relieved by substantial rains. Over the remainder of the country the usual seasonal low-water conditions prevailed, except in the lower Rio Grande, where floods occurred from September 15 to 24, inclusive. A tropical disturbance moved westward over the Gulf of Mexico from September 10 to 14, inclusive, reaching the mouth of the Rio Grande on the latter date. It was attended by excessive rains, and by the morning of September 16 the flood was well under way. Warnings were issued on this date, and the crest of the high

water reached Brownsville, Tex., on September 23. The flood was not as great by from 4 to 6 feet as that of September, 1909, and no serious damage was done. Some small crops were overflowed and railroad traffic was interrupted for a time, but the total losses were small. At Brownsville the levees prevented the flood waters from entering the town.

Hydrographs for typical points on several principal rivers are shown on Chart I. The stations selected for charting are Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.

SPECIAL PAPERS ON GENERAL METEOROLOGY.

JACOB W. BAUER.

By H. E. WILLIAMS, Assistant Chief of Bureau

Mr. Jacob W. Bauer, whose death at Columbia, S. C., oc-curred on September 4, 1910, entered the service on July 23, 1883. He attained the rank of Sergeant in the Signal Corps of the Army and afterward the position of Section Director in the Weather Bureau. He served as assistant at Boston, Mount Washington, and New York City, and Official in Charge at Thatchers Island, Mount Washington, Duluth, and Columbia, S. C., which latter assignment he held from November 2, 1893, until the time of his death. He was a faithful and conscientious official and had a good record in the Bureau for the efficient performance of duty.

RECENT ADDITIONS TO THE WEATHER BUREAU LIBRARY.

C. FITZHUGH TALMAN, Librarian.

The following have been selected from among the titles of books recently received, as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies. Anonymous publications are indicated by

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Die klimatischen Verhältnisse der geologischen Vorzeit vom Präcambrium an bis zur Jetztzeit, und ihr Einfluss auf die Entwickelung der Haupttypen des Tier- und Pflanzenreiches. Berlin. 1910. v, 256 p.

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Die Gegensatz in den aussertropischen Klimaten der continentalen West- und Ostküsten auf der Nordhemisphäre. Wien. 1901. 52p. 4°. (S.-A., Abhdl. K. k. Geogr. Gesell., Wien, Bd. 3, 1901, No. 3.)

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Fifth annual report of the meteorological committee, 1909-10. London. 1910. 147p. 8°.

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the northeast and southeast trade winds, comprising:
A comparison of the changes in the temperature of the water...and
...strength of the trade winds, by M. W. Campbell Hepworth.
Climatological table for St. Helena,... 1892–1907, by J. S. Dines.
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C. FITZHUGH TALMAN, Librarian

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CONDENSED CLIMATOLOGICAL SUMMARY.

In the following table are given, for the various sections of the Climatological Service of the Weather Bureau, the average temperature and rainfall, the stations reporting the highest and lowest temperatures with dates of occurrence, the stations

The mean departures from normal temperature and precipi-

reporting the greatest and least monthly precipitation, and other data, as indicated by the several headings.

The mean temperatures for each section, the highest and records is smaller than the total number of stations.

			Temperature—in de	grees	Fahr	enheit.					Precipitation—in inch	es and l	undredths.	
Station.	rage.	from nal.		Mont	hly ex	tremes.			orage.	arture from normal.	Greatest monthly	y.	Least monthly.	
	Section ave	Departure the norm	Station.	Highest.	Date.	Station.	Lowest.	Date.	Section ave	Departure the norm	Station.	Amount.	Station.	Amount.
labama	77.5	+ 2.5	2 stations	101	81	Oneonta	45	18	2.21	- 0.67	Bermuda	6.03	Dadeville	0. 3
rizona	77.7	+ 2.8	Parker	120	9	Flagstaff	30	23	0.49	- 0.43	Cochise	4.70	6 stations	0.0
rkansas	76.4	+ 3.1	Pocahontas	101	23	Lake Farm	44	18	2.41	0.87	Mammoth Springs.	9.34	Earl	0.1
alifornia	67.3	- 0.7	Mammoth Tank	119	3	3 stations	20	11	0.69	+ 0.10	Ozens	4, 50	25 stations	0.
olorado	59.6	+ 2.9	Hoebne	102	23	Fraser	12	27	1. 25	+ 0.02	Marble	3. 26	Rocky Ford (near)	0,
oloradolorida	70 3	+ 0.3	2 stations	100	8	Mount Pleasant	48	18	3, 22	- 4.18	Homestead	10.35	Lake City	0.
orgia	76.3	+ 1.4	2 stations	103	71	Clayton	43	17	2.48	- 1.26	Lafayette	7.30	Putnam	0.
orgis	79.0	7	Molokai Ranch, Mol	93	18	Humuula	39	9	7. 16		Hakalau, Hawaii	32.13	Waiawa, Kauai	0.
awaii (Aug.)	70.0	. 0 7	Glenns Ferry	98	19	Chesterfield	12	26	1.07	- 0.03	Bonners Ferry	2.71	Roseworth	0.
aho	98.0	+ 0.7		95				10		+ 1.17				
nois	66.9	- 0.1	3 stations		71	Lanark	33		4.58		Sumner	10.83	Cairo	0.
liana		+ 0.4	Logansport	97	8	3 stations	38	10†	4.52	+ 1.56	Farmland	9.39	Whiting.	1.
VA	63.2	- 0.5	Creston	99	15	2 stations	30	10†	3.59	+ 0.18	Afton	7.43	Elma	
nsas	70.4	+ 1.5	Anthony	105	11	Council Grove	29	27†	3.11	- 0.01	Walnut	10.94	2 stations	T.
ntucky	71.8	+ 1.3	Hopkinsville	99	1	Berea	38	16	4.41	+ 1.83	High Bridge	8.55	Hopkinsville	
uisiana	79.2	+ 1.8	2 stations	101	91	Calhoun	48	18	3.29	- 0.77	Donaldsonville	10.37	Grand Cane	0.
ryland and Delaware	69.9	+ 2.2	BachmansValley, Md	98	6	2 stations	32	10†	1.67	- 1.86	Cumberland, Md	3.97	Tacoma Park, Md	0.
higan		- 1.3	2 stations	90	11	2 stations	26	134	2.84	- 0.16	Cassopolis	6. 10	West Branch	0.
nnesota	58.4	+ 0.3	2 stations	92	71	Fram	20	12	2.45	- 0.60	Grand Meadow	4.43	Beardsley	0.
sissippi	78.3	+ 2.9	Leakesville	101	21	Monticello	45	18	1.89	- 1.41	Pascagoula	8.24	Enid	T.
ssissippisouri	69 5	+ 0.5	Caruthersville	97	71	Oregon	34	27	5, 58	+ 1.99	Mexico	11.41	Perryville	0.
ontana		-1.5	Springbrook	98	19	Busby	6	26	2, 62	+ 0.90	Half Moon Pass	5.50	Malta	0.
braska		+ 0.7	2 stations	102	71	Canton (near)	18	26	2.24	+ 0.08	Palmyra	7.27	Springview	0.
Druska			2 stations	108	94		20	51	0.73	+ 0.32	Palmetto	1.84	Mina	0.
vada	50.0	+ 0.7		85	-11	2 stations	26	19	2.85	- 0.61	Cornwall, Vt	6.76	Nantucket, Mass.	0.
w England	39. 6		3 stations	97	41	Presque Isle, Me	32	30	2.39	- 1.45	Phillipsburg	3.97		
w Jersey	94.3	+ 1.5	Bridgeton	104	0	Charlotteburg						3. 35	Woodbine	1.
w Mexico	00.0	+ 2.7	Carlsbad		3	Elizabethtown	24	27	0.59	- 1.11	Batemans Ranch		8 stations	0.
w York	6.03	- 0.4	Mount Hope	92	6	Potsdam	25	22	3.68	+ 0.36	De Ruyter	8.31	Chasy	0.
orth Carolina	72.3	+ 1.7	2 stations	97	71	2 stations	35	17†	2.97	- 0.89	Brevard	7.29	Rocky Mount	0.
rth Dakota	55.3	- 2.0	Medora	99	17	Howard	18	26	1.96	+ 0.50	Walhalla	4.48	Buford	0,
io	66.3	+ 0.5	Amesville	93	5	2 stations	34	10	4.05	+ 1.48	Norwalk	9.72	Thurman	0.
lahoma		+ 4.4	Hobart	107	5	Dacoma	30	28	0.98	- 2.00	Fairland	3.69	Harrington	0,
gon	54.6	- 0.7	Pilot Rock	93	3	Christmas Lake	14	71	0.94	- 0.71	Bay City	3.75	2 stations	0.
nnsylvania	65.5	+ 1.7	Gettysburg	95	6	Wellsboro	32	15	4.49	+ 1.15	Baldwin	8.45	Gettysburg	2.
rto Rico			*********************											
ath Carolina	75.8	+ 1.7	Florence	103	7	Saluda	46	18	3. 10	- 0.72	Clemson College	6. 19	Little Mountain	0,
uth Dakota		- 0.3	Kennebec	102	16	Deadwood	22	28	1.91	+ 0.07	Yankton	4.72	Hill City	0. 3
nnessee		+ 3.3	Jackson	99	24	Mountain City	37	17	2.46	- 0.65	Ta:ewell	6.27	Sparta	0.4
zas	80.6	+ 3.5	3 stations	107	1+	Plemons	39	27	1.80	- 0.96	Brownsville	10.71	3 stations	0.6
h	63. 1	+ 2.8	Iosepa.	114	11	Woorduff	12	26	1.35	+ 0.29	Orderville	3, 78	Kelton	0.
ginia		+ 1.6	Lincoln	101	6	Burkes Garden	32	18	2.07	- 1.31	Mendota	6. 13	Warsaw	0.
shington	50. 9	+ 0.6		98	14		23	25	1. 29	- 0.49	Quiniault	5. 52	Nutland	0.
			Zindel	97		2 stations	32	17				6. 04	Martingham	
st Virginia		+ 2.0	Bancroft		23	Bayard			3.59	+ 0.86	Spencer		Martinsburg	0.1
sconsin	58.6	- 1.6	3 stations	90	71	Koepenick	26	10	3.44	+ 0.22	Pine River	6. 63	Beloit	1.4
oming	54.5	+ 1.3	Fort Laramie	98	16	Fox Park	11	27	1.36	+ 0.22	Knowles	4. 51	Green River	0. 1

*Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut. †Other dates also.

Table 1.—Climatological data for U. S. Weather Bureau stations, September, 1910.

	Elevation of instruments.	Pressure, in	inches.	1	emper		e of the		in de	grees		ter.	of the	dity.		ipitatio	n, ir	1	V	Vind		-	-	1	40	
	d d	used to	8	ei . 4	8		i			B.	-	mome	ture o	re humidity, cent.		1	10.	int.	4		faxim velocit			days.	Dess d	tenth
Stations.	Barometer above sea level, feet. Thermometers above ground Anemometer above cround	24 PM	Departure from normal.	Mean max. + mean min. +	Departure from normal.	Maximum.	Date.	Minimum.	Date.	Mean minimum	Greatest daily	Mean wet thermometer.	1	Mean relative hu	Total.	Departure from normal.	Days with .01,	Total moveme miles,	Prevailing dire	-	Direction.	Til		Partly cloudy	Average cloud	ing daylight,
New England. Eastport. Greenville Portland, Me. Concord Burlington Northfield Soston Nantucket Slock Island Narragansett Providence Hartford New Haven did. Atlantic States. Ilbany Sew York Iarrisburg Philadelphia cranton Litantic City ape May Intimore Fashington ape Henry ynchburg Count Weather Sorlink Lichmond ytheville S. Atlantic States.	76 67 85 1,070 6 103 81 117 288 70 79 404 11 48 876 16 70 125 115 188 12 14 90 26 11 49 26 11 49 160 141 165 159 122 165 97 102 115 871 78 83 314 108 350 374 94 104 117 116 184 805 111 110 52 37 48 805 111 110 53 37 48	30, 02 30, 10 30, 02 30, 10 28, 94 30, 11 29, 98 30, 11 29, 86 30, 10 29, 17 30, 12 29, 96 30, 10 30, 07 30, 08 30, 06 30, 09 29, 97 30, 08 29, 98 30, 98 29, 97 30, 10 29, 25 30, 10 29, 20 29, 20 20,	+ .07 + .06 + .05 + .04 + .03 + .01 + .01	60. 6 55. 6 55. 6 55. 6 55. 1 56. 4 54. 8 62. 2 63. 6 64. 0 62. 2 63. 5 64. 0 62. 8 63. 5 64. 0 62. 8 63. 5 64. 0 63. 5 64. 0 65. 0 65. 4 65. 6 65. 7 66. 0 67. 0 68. 7 69. 8 69. 9 69. 8 69. 8 60. 8	- 0.1 - 0.0 - 1.0 - 0.0 - 2.5 - 0.5 - 1.0 - 0.5 - 1.0 - 1.0 - 1.0 - 2.5 - 1.0 - 2.5 - 1.0 - 3.5 - 1.0 -	74 71 79 83 75 75 82 76 85 80 81 83 84 83 90 92 86 86 86 96 94 93 88 88 88 88 88 88 88 88 88 88 88 88 88	18 62 4 64 18 66 4 71 12 66 4 66 7 70 7 68 7 72 26 71 5 73 9 73 6 72 6 76 6 76 6 76 6 80 6 80 6 80 6 81 8 81 8 81 8 81 8 81 8 81 8 81 8 81		5 122 1 23 3 23 3 23 5 23 7 19 9 30 9 30 1 19 9 30 30 30 30 23 23 15 20 17 29 17 29 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18		211 36 27 38 20 25 26 24 27 26 31 25 29 29 23 30 34 23 30 31	51 54 55 57 58 60 57 58 59 62 62 62 62 63 63 63 63 66 68 61	49 50 50 54 54 55 55 56 54 58 58 59 56 62 59 60 63 57 65	81 81 77 86 87 87 87 87 87 87 77 77 78 77 77 74 78 78 77 77 74 78 81 70 70 70 70 70 70 70 70 70 70 70 70 70	2. 47 2. 77 2. 89 2. 75 2. 1. 06 4. 72 2. 16 4. 1. 21 2. 2. 88 3. 41 1. 21 2. 2. 88 3. 43 1. 43 3. 05 4. 52 2. 13 3. 05 4. 14 3. 05 4. 16 4. 16	- 0.7 - 1.1 - 0.3 - 0.2 - 0.6 + 2.0 - 1.0 - 2.1 - 2.0 - 0.7 + 1.8 - 2.2 - 0.3 + 1.6 - 0.6 - 1.6 - 0.6 - 2.1 - 0.1 - 2.1 - 0.3 - 2.2 - 0.3 + 1.6 - 0.6 - 1.6 - 0.6 - 2.2 - 0.3 - 1.6 - 0.6 -	12 12 12 13 12 12 12	1	T	29 28 21 33 28 24 43 30 24 24 24 35 37 26 30 28 21 29 21 45 26 27 27	1	19 9 9 25 9 17 17 19 16 6 6 6 6 6 7 16 1 16 1 16 1 16 1 16 1	9 9 9 8 8 10 9 10 17 18 11 17 11 11 11 11 11 11 11 11 11 11 11	7 110 112 110 11 5 6 9 11 12 1 13 3 9 7 1 1 12 1 1 1 2 1 1 9 9 6 6 7 7 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5.6 4.6 1.5 9.5 5.2 2.5 5.2 5.5 6.4 6.4 6.5 6.4 6.5 6.4 6.5 6.4 6.5 6.4 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5	56.54.796336.21790779477980119.500568
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Table 1.—Climatological data for U. S. Weather Bureau stations, September, 1910—Continued.

	Elevinst	rum	on of ents.	D	ssure, in				atur	re of the Fahrenh	air,				1	. 0	the contract of	-	cipitati	on, i	-		Win	d.		T		dur-	-
Stations.	Barometer above sea level, feet.	Thermometers	Anemometer	al, reduced to	Sea level, reduced to mean of 24 hrs.	Departure from .	n max. + an min. + 2.	Departure from normal.	Maximum.	- makem	Minimum		minimum.	Greatest daily	range.	temperature o	relative humidity,	3	Departure from	Dave with 01 or	noremen	ing direc-	Der	Maxin veloci	ty.	days.	cloudy days.	Cloudy days. Average cloudiness d	tem
	Barc	Ther	Ape	Actual, mean of	Sea 1	Dep	Mean m	Dep	Maxi	Date.	Mini	Date	Mean	Great	Mean	Mean	Mean	Total.	Depar	Dave	Total	Prevailing	Miles 1	hour. Direction	Date.	Clear	Partly	Cloudy	p But
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dan	6, 200 2, 821	11	48	23, 95		05	55.4 50.3 65.0 70.0	- 3.1	78	16 69 19 63 7 78	24 25 39	26 26 27	42 37	46 48	47	41 34 50	70 60. 69	1.79 0.78 0.97	- 0.2 - 0.5	2 7 10 7	3,728 5,755 5,615	sw. nw. sw.	31 31 28	W. SW. SC.	4 1 4 1 6 6 1	7 1	7 13 8 8 6 9	6.3	
lo	1,398 4	12	86 50	25, 35 28, 56	30, 00 + 29, 97 + 30, 02 +	04	64.3	1.6	35	10 78 10 83 18 78	39 38 38	26 27 27 27	52	51	52	41 43	54 53	1.04 1.00 0.13 1.59	$\begin{array}{c} -0.9 \\ +0.1 \\ -0.5 \end{array}$	9 2 8	5,514 4,528	s. se.	51 39	n. n.		8 1	4 4	4.1 4.4 2.8	
ta	1,358 9	18 1:	21 3	28.61		.01	70.7 + 72.2 + 77.6 +	2.5 8 2.4 9 5.5 10	16 2	22 84 3 83 3 89	38 44 48	27 27 28	58 61	42 34	59 63	53 59 60	64 69 65	0. 26 1. 56	- 1.0 - 1.5 - 1.6 - 1.0	3 9 6	4,580 7,809 6,001 9,634	S. St.	25 40 30 42	n. W. SW.	25 1: 25 1: 4 1:	2 13	2 6	3.9	
illo 3	3, 676 1 944	0 4	19 2 57 2	26.32 28.98	29.98 +	.02	77.1 + 80.0 + 73.7 + 82.3 +	5.8 9 6.0 10 3.4 9		4 91 11 88 5 94	56 46 66	27 27 • 28	59			59	59 58 58	0.71 1.64 0.05	- 2.0 - 1.5 - 2.3	7	6, 485 8, 694	8. 8.	35 34	se. 8.	12 10	6 10	4	3.7	
thern Plateau.	, 762 11	0 13	13 2	26. 20	29. 98 + 29. 87 -	.06	72.5 +	2.2 9	6	3 87	49	30	58	41 8		. 1	62 13	0.44	- 2.2 - 1.8 - 2.3 - 1.2	3	5,308 2,957	S.	30 21	s.	13 16 14 16	3 12	2	2.3	
nix	, 907 , 108 5	8 5 0 5 9 5	66 2 68 2	3.46 8.67 9.62	29.79 -	.00 .03 .02 .02	77.6 + 63.2 + 59.0 + 86.2 + 85.5 + 69.7 + 61.5 + 65.2	2.6 8 3.5 8 4.8 10 1.6 11 0.6 9	8 2	8 75 9 76 9 101 9 103 0 86		23 23 28 26	51 42 72 68	31 4 46 4 41 6	19 4 16 3 15 3	10 8 36 8 52 3 58 4	51 55 55 15 18	1. 12 0. 81	- 0.5 - 1.3	6 6 0 1	2,906 3,682	sw. sw. e. sw.	28 30 20 39	SW. 80.	3 16 12 19 11 19 15 25 30 29	9 9 9 4	2 2 1		
pah 6	, 532 56 , 090 13	2 2	0 2	4.08 2	19.89 - 19.88		00x 40 0 x	* * * * * O	8	9 78 0 76	35	13	45 4	3 4	7 3	3 4	4 6	1.28	+ 1.1 + 0.6 + 0.1 0.0 + 0.4	3 2	4,632	w. :	35	w.	6 5	3	3	2. 2 3. 6 1. 6	
ake City 4,	, 344 18 , 479 16 , 360 147 , 546 18 , 608 43	0 4 7 18 8 5	3 2 9 2 6 2	4.65 2 5.62 2 3.76 2	19.91 - 19.92 - 19.96 +	.01 (59.8 - 63.2 + 67.8 + 62.3 + 69.8 +	3 0 8	8	9 78 9 79 9 78 8 79	34 39 45 36	9 27 5 27	42 8 48 4 57 3 46 4	4 4 2 5 4 4	8 4 9 3 1 3 8 3	11 5 16 4 18 3 18 5	5 1 8 0 2 0	0.71 - 1.68 - 0.74 - 0.33 -	+ 0.4 + 1.2 - 0.1 - 1.5	3 7 6	3,770 7,647 5,842	ne. :	14 18 12	nw. sw. se.	13 23 24 20 12 21 16 19 12 14	6 4 7	5 4	2.1 2.5 3.0 3.0	
on Pidleds. 2,	739 78 757 10	8 8	6 23	7. 15 2 9. 20 3	9.98 +	.01	11.8	0.7	1	9 75	36	26 8	56 3 19 3	9 4	3 4	0 4	2 0 9 0 5 0	0.92 0.99 - 0.50 -	6.6 + 0.2 + 0.1	6	3,737	nw. 2	16	sw.	10 23 16 19	6	1	3.8 2.4 4.3 3.1	
ne	477 46 929 101 000 71	110	0 23	5.49 2 7.98 3	9.96	.00 6 .04 5 .01 6	31.3 + 39.0 + 32.4 -	0.6 87	15	75 70	32 35	26 4 25 4	19 4 18 4 18 3 11 3	6 4	9 4	1 5	6 0	. 93	- 0.8 - 0.5 - 0.9 - 0.2	7 8	5,869 4,028	se. 3 ne. 2	4	8. 1 nw.	5 10 17 19 3 8	7	11 4 10	5. 4 3. 1 5. 4	
rescent	211 11 259 8 123 185	53	29	.81 3	0.09 +	.06 5 .07 5	2.4 - 6.2 - 4.4 - 1.3 - 8.0 +	0.7 1.8 73 1.2 83 0.1 75	12	58 59	47 36	25 5 25 4	1 1: 3 3: 1 2:	0 53		8	2	. 85 -	0.6	10	8, 347	nw. 5	2 1	. 2	3 14 29 4 3 8	7 16		4. 4 6. 0 7. 7	

Table 1.—Climatological data for U. S. Weather Bureau stations, September, 1910—Continued.

	Ele		on of ents.	Press	ure, in	inches.	1	Temper	F	e of ahre	the a	air, in	deg	rees		eter.	of the	dity.	Preci	pitatio nches.	n, in		W	ind.						he.
Stations.	above feet.	eus,	und.	need to	duced M hrs.	rom .	ei ++	from L.			num.			num.	daily ge.	wet thermometer.		ve humidity,		rom .	.01, or	ment,	direc-		ximu			ly days.	B.	light, tent
	Barometer a	Thermomet	Anemomete above gro	Actual, redument of 24 l	Sea level, reduced to mean of 24 hrs	Departure from normal.	Mean max	Departure fro	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum	Greatest da	Mean wet th	Mean tempera	Mean relativ	Total.	Departure from normal.	Days with .	Total mover miles.	Prevailing c	Miles per hour.	Direction.	Date.	Clear days.	Partly cloudy	Cloudy days.	ing daylight, tenths.
V.P.Coast RegCon.					20.07	. 08	57.6	0.0	**			40	25	***	07		48	71						34						
atoosh Island	86	1 7	120 57	29, 85 29, 97	30.07	+ .05	52.4		74 68	12	57	43	2	50 48 51 46	27 19 30 37	52 50 54 54	48	91	1. 62 2. 85	- 0.8 - 3.3	12	3, 641 7, 623	n.	47	e. s.	29	7		10 15	
ortland, Oreg		68	106	29.89	30.05	+ .02	60. 0 59. 6		82 84	2	63	45 38	7 7	51	30	54	49 50	71	1.15	- 0.7	7		nw.	25	ne.	12			13	
oseburg	510	9	57	29.48	30.04	+ .02	62.2	- 0.9	34	2	13	38		40	31	94	30	76 62		- 0.2 - 0.4	6.	2,000	n.	17	nw.	1	14	10	6	. 0
ureka	63			29.98	30.04	+ .03	53.1	- 1.8	66	8	58	44	8	49	22 29	50 51	48	86	0.01	- 1.1	1	3,611	n.	33	nw.	10	5	13	12	
ount Tamalpais	2, 375			27.52 29.42	29.96	+ .02	65.0		85	30	73 55	43 45	19	57 48	29 17			43	0.17	- 0.3	2	9, 158 12, 986	nw.	51	nw.	6	25	4		1.2
ed Bluff	332	50	56	29.54	29.89	04	71.0	- 2.9	96	9	85	49	13	58 52	39	56 57	42	41	0.41	- 0.4	3	3,041	se.	21	nw.	11		4		. 4
cramento		106		29.83	. 23.90	+ .01	67.2	- 1.9	93	1	82	45	13	52	39	57	49	59 81		- 0.2	2	5, 119	S.	26	sw.		28	0		.0
n Francisco		200	204 110	29.79	29, 95	+ .02	57.6 62.0	- 1.7 - 2.7	82 90	30	65 76	48 46	1 13	51 48	31 46	52	49			-0.2 -0.2	2 2	6,632	w. nw.	32 23	W.	11		10	8 4	
outheast Farailon .	30			29.95	29, 98		52.5		59	20		47	14	51	6				0.01	- 0.3		10, 282	nw.	46	nw.	11			18 (1.5
S. Pac. Coast Reg.	990	67	70	29.53	29.88	+ .01	73.5	+ 1.6	102		80	48	13	58	41	57	42	65 42		+ 0.2 + 0.7	9	3,477	nw.	14	w.	16	94		2 1	. 0
os Angeles	338	159	191	29.54	29.90	+ .02	70.5	+ 4.0	98	10		54	8	80	32	60	43 55	70	0.01	0.0	î	3,794	sw.	30	ne.	30	19	9	2 3	
n Diego		94	102	29.80	29.89	.00	67.8	+ 0.9	86	10		56 42	21	62 50	32 22 45	60 63 54	61	83		+ 0.1	1	4, 172	nw.		nw.	29 17	22	6	2 2	. 8
n Luis Ohispo West Indies.	201	47	54	29.73	29, 95	+ .02	63.8	+ 2.3	99	10	77	42	13	50	45	34	49	68	0.41	0.0	2	3,056	nw.	24	n.	17	16	9	5 4	. 1
and Turk	11		20									****																		
n Juan	82	48	90	29.87	29, 95	+ .01	70.2		87	4	84	70	7	74	13		er.	x x = =	11.64	+ 6.5	24	7,363	e.	72	ne.	6	12	10	8 8	.1
ristobal	17	5	60	29, 83	29, 85		78.6		88	15	84	71	30	73	16	75	74	91	12.65	- 0.5	25	3,925	se.	24	8.	4	2	13	15 6	. 7
lebra	404	4	30	29.43	29.84	******	78.6		89	7 17	86	69 70	14	71 72	19	75 73 75	73 74	94		- 1.3	22	3, 219	nw.	31	ne.	28	0	18 1	12 7	.4
con	92			29.74	29.84	******													18, 44	- 2.6 + 6.4	18 24	3,816	nw.	18	BC.	14			4 3	
hio																				+ 2.8	27				*****		**			11
tun																			12.72	+ 1.8	28				*****					

† Below sea level.

Table II.—Accumulated amounts of precipitation for each 5 minutes, for storms in which the rate of fall equaled or exceeded 0.25 in any 5 minutes, or 0.80 inch in 1 hour, during September, 1910, at all stations furnished with self-registering gages.

Stations.		Total d	luration.	amount recipita-	Excessi	ve rate.	before		D	epths	of prec	ipitati	on (in	inches) duri	ng peri	iods of	time	indicat	ed.	
	Date.	From-	То-	Total a of pre-tion.	Began-	Ended-	Amount excessive	5 min.	10 min.	15 min.	20 mm.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	12 mi
Abilene, Tex	5-6 6 8		D. N. a. m.			5:07 p. m.		0. 13	0.34	0.43								0.55	*****		
marillo, Tex anniston, Ala Do asheville, N. C.	24 2 29 24	1:00 p. m. 3:08 a. m.	3:50 p. m. 4:10 a. m. D. N. p. m.	0.05 1.14 0.81	1:37 p. m. 3:36 a. m. 8:21 p. m.	2:12 p. m. 3:56 a. m. 8:38 p. m.	C. 04 0. 17	0. 17 0. 10 0. 13	0.47 0.19 0.30	0.69 0.42 0.41		0.89	0.96	1.01				0.03		*****	
tlanta, Gatlantic City, N. J	1-2 9	3:40 p. m. 6:40 p. m.	D. N. a. m. D. N. p. m.	0. 19 0. 91 1. 35	7:58 p. m. 8:53 p. m.	8:11 p. m. 9:10 p. m.	0. 15 0. 45	0, 12 0, 16	0, 29 0, 46	0, 39 0, 63	0.69		*****	******				0. 12			
entonville, Ark Do	5 5-6	1:07 p. m. 4:40 p. m. 8:30 p. m. 12:15 p. m.	7:45 p. m. 1:05 a. m.	2.49 1.05	1:22 p. m. 4:55 p. m. 8:45 p. m. 1:30 p. m.	1:58 p. m. 5:45 p. m. 9:02 p. m. 2:25 p. m.	0.05	0, 35 0, 09 0, 15 0, 11	0, 72 0, 46 0, 39 0, 13	0, 98 0, 68 0, 62 0, 22	1.11 0.89 0.67 0.30	1.28 1.13	1.44	1.51 1.63	1.89	2.09	2.16				
Doinghamton, N. Y Doirmingham, Ala	27-28 3	1:43 p. m. 9:00 p. m. 7:08 p. m.	2:25 p. m. 12:30 a. m. 9:10 p. m.	0.52 1.00 2.03	1:43 p. m. 9:21 p. m. 7:14 p. m.	1:58 p. m. 9:56 p. m. 8:34 p. m.	0.00 0.02 0.01	0. 15 0. 07 0. 17	0.39 0.20 0.24	0.51 0.28 0.48	0.40 0.80	0.48	0.63	0.70	0.91	0.95	1. 13	1.67	2.01		
Doismarck, N. Daklock Island, R. I	5 21 15	5:20 a.m.		1.16	4:45 p. m. 5:45 a. m.	5:15 p, m. 6:00 a. m.	0.07	0.07		0.09							*****	0.47			
oston, Massuffalo, N. Y	3 5 6	7:57 p. m.	8:52 p. m.	0.45 0.32 0.60	8:18 p. m.	8:28 p. m.	T.	0.16	0.31									0.27	******		
airo, III anton, N. Y harles City, Iowa. harleston, S. C	6 26 26	,,,,,,,,,,,,	D. N. p. m.	0, 31 0, 82 0, 28 0, 70		9:32 p. m.				0.36		******					*****	0.47	******	*****	
Doharlotte, N. Chattanooga, Tenn	27 10 25	6:25 a.m.	8:50 a. m. 7:36 p. m.	1. 15 0. 73	6:34 a. m. 4:14 p. m.	7:04 a. m. 4:34 p. m.	0.02	0.05		0.44	0.61	0.82	0.92	*****			*****	0.59		*****	
heyenne, Wyohicago, Ill ncinnati, Ohio	20 12 4 13	4:30 p. m. 8:48 a. m.	10:00 a.m.	0.56	4:53 p. m. 8:52 a. m.	5:11 p. m. 9:00 a. m.	0.01	0. 12 0. 37	0.29	0.37	0.44					******		*			
Do	3 4	4:25 a.m. 7:05 p.m. 8:42 a.m. 8:16 a.m.	6:10 a. m. 8:15 p. m. 9:22 a. m. 11:30 a. m.	0.53 0.68	5:17 a. m. 7:19 p. m. 8:45 a. m. 8.27 a. m.	5:55 a. m. 7:31 p. m. 7:06 a. m. 9:12 a. m.	0.01		0. 21 0. 51 0. 42 0. 48	0. 28 0. 67 0. 67		0.35									
Do	3-4 26	7:10 p. m. D. N. a. m.	D. N. a. m. 9:45 a. m.	2.02 2.11	9:34 p. m. 52:17 a. m. 74:53 a. m.	9:59 p. m. 3:12 a. m. 5:23 a. m.	0.30	0. 11 0. 08 0. 25	0. 19 0. 10 0. 31	0. 25 0. 23 0. 33	0.51 0.39	0.63 0.58	0.63	0.68	0.69		0.75				
Do	1 1 2-3 13	3:12 p. m. 12:30 p. m. 9:00 p. m.		0.68 1.78	3:13 p. m. 12:43 p. m. 9:20 p. m.	3:32 p. m. 12:56 p. m. 10:17 p. m.		0. 23 0. 17 0. 10	0.45 0.44 0.34	0.59 0.51 0.41	0.52	0.66	0.74	0.81	1.01	1. 23	1. 32	1.40			
Do	4 8 13	6:04 p. m. 10:46 a. m. 4:15 a. m.	11:40 a. m.	0.42	6:05 p. m. 11:13 a. m. 6:50 a. m.	6:35 p. m. 11:36 a. m. 7:10 a. m.	0, 01 0, 02 0, 21	0. 16 0. 20 0. 07	0. 24 0. 33 0. 16	0. 32 0. 40 0. 28	0.41						*****				
oncordia, Kans orpus Christi, Tex	5		8:15 a. m.	0.54	4:32 a. m. 12:20 p. m	4:57 a.m.	0.83	0.10	0.21	0.29	0.32	0.48	0.52					0.47			

Total snowfall.

		Total d	luration.	amount recipita-	Excessi	ve rate.	before		De	pths o	f prec	ipitatio	on (in	inches)	durin	g peri	ods of	time i	ndicate	ed.	
Stations.	Date.	From-	То-	Total ar of prec	Began-	Ended-	Amount excessi gan.	5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	1 m
el Rio, Tex	14 22			0, 43 0, 43						**-***								0, 21 0, 24			
nver, Colos Moines, Iowa	. 11-12	6:40 p. m.	D. N. a. m.		10:36 p. m.	11:18 p. m.	0.40			0.35	0.45	0.62	0.65	0.70	0.79	0.82		0.23			
roit, Mich rils Lake, N. Dak	. 5	**********		1.64	*********	**********				*****					*****	*****	*****	0.44	*****	*****	
lge City, Kans	1		**********	0.22 0.61		***********				*****			*****		*****	*****	*****	0.38		*****	
uth, Minnango, Colo	. 11	7:20 a. m.	11:45 a. m.	0.54	7:22 a. m.			0.30	0.39	0.44	0.45		*****	******	*****	*****		0.08		*****	:
tport, Me ins, W. Va	. 5	6:30 a. m.	8:15 a. m.	0.51	7:03 a. m.	7:20 a. m.	0.02	0.18	0.24	0.36	0.40		*****		*****			0.39	*****	******	
Paso, Tex	. 25	D. N. a. m.	8:05 a.m.	0.08	4:14 a.m.	4:39 a. m.	0.03	0, 13	0.40	0.49	0.52	0.54				*****	*****	0.08	*****	*****	1
, Paanaba, Mich	. 11	4:25 p. m.	D. N. p. m.	0.94	4:52 p. m.			0. 13	0. 24	0.34	0.37	0.42	0.53	0.60	0.65			0.01			
eka, Cal nsville, Ind	. 12	5 6:35 a. m.	7:50 a. m.		7:10 a. m.	7:25 a. m.	0.02	0.18	0.29	0.36	0.49	******	*****				terres.				
staff, Ariz		712:35 p. m.	2:25 p. m.	0.79	12:40 p. m.			0.22	0.38	0. 52	0.63		*****	******				0.32	*****	*****	
Smith, Ark Worth, Tex	. 2	4:50 p. m.	10:03 p. m.	0.74	7:48 p. m.	7:59 p. m.	0. 23	0. 20	0.40				*****		*****			0.34	*****		
no. Cal	. 14	3:58 p. m.	11:45 p. m.	0.27	4:07 p. m.	4:41 p. m.	0.02	0. 12	0.27	0.37	0.42	0.49	0.55	0.62				0.17	******		
Do	. 14	7:20 a. m.	12 noon.	0.91	10:49 a. m.	11:33 a. m.	0.09	0.11	0. 24	0.40	0.50 0.48	0.51	0.57	0.69	0.74	0.80					
nd Haven, Mich nd Junction, Colo	. 21	D. N. a. m.		0.25	2:55 a. m.							*****	******	*****							
nd Rapids, Mich n Bay, Wis	. 12	3:34 a. m. 8:33 p. m.		1.20	3:46 a. m. 8:35 p. m.	9:10 p. m.	0.02	0.20	0.32 0.38	0.41	0.43	0.57	0.64	0.72			*****		*****		
Donibal, Mo	. 17	5:12 a.m. D. N. a. m.	8:10 a. m.	1.76	6:53 a. m. 2:25 a. m.	7:44 a. m. 2:59 a. m.		0.08	0.17	0.24	0.30	0.44	0.50	0.60	0.72	1.18	1.36		*****		
risburg, Pa	. 13			0.29	2:52 a.m.	3:22 a. m.		0.18	0.40	0.49	0.54	0.67	0.75					0.19			
ford, Conn Do	. 6	10:30 p. m. 8:43 p. m.	9:58 p. m.	1.01	9:12 p. m.	9:17 p. m.	0.26	0.19	0.44	0.63	0.51	0.76	0.79	0.82	0.89	1.23	1.37	1.46	*****		
eras, N. Cre, Mont		3:10 a.m.	4:55 a. m.	0.20	3:45 a. m.	4:40 a. m.	0. 22	0.08	0.10									0.08		*****	
na, Mont ghton, Mich	. 16			0.31				*****		******			*****	*****	*****	*****	*****	0.24		*****	
on, S. Dak	. 22			0.88	*********						*****		*****	*****	*****			0.55	*****	*****	
pendence, Cal anapolis, Ind	. 5	6:10 p. m.	D. N. p. m.	1.43	7:30 p. m. 7:43 a. m.	8:05 p. m. 8:13 a. m.	0.31 T.	0.26	0.34	0.57	0.66	0.85	0.89	1.02	*****				*****		
Do	. 43	7:35 a. m. 3:51 p. m.	7:22 p. m.	2.15	4:18 p. m.	5:08 p. m.	0.04	0.10	0.35	0.43	0.52	0.85	1.25	1.37†	1.479	1.57	1.65				,
sonville, Fla	. 15	3:50 p. m.	D. N. p. m.	1.66	7:19 p. m. 8:08 p. m.	7:30 p. m. 8:17 p. m.	0.57	0.14	0.35	0.42			******	*****	*****						
er, Fla	. 17	12:33 p. m.	1:30 p. m.	1.57	(9:31 p. m. 12:41 p. m.	16:00 p. m. 1:16 p. m.		0.07	0.12	0. 24 0. 92	0.35	0.45 1.30	0, 50 1, 45	1.51		*****	*****		*****		
Dospell, Mont	. 29-30	11:45 p. m.	2:30 a. m.	1.16	11:52 p. m.		0.03	0.08	6.31	6. 52	0.09	0.82	0.87		******		*****	0.20		*****	
sas City, Mo	. 1	6:30 a.m.	1:26 p. m. 6:40 a. m.	1.27	6:34 a.m. 8:53 p.m.	6:53 a. m. 16:08 p. m.		0.13	0.43	0.63 0.25	0.68	0.32	0.40	0, 52	0.78	0.99	1.09	1.13	1.78	*****	
Dokuk, Iowa	. 12	8:20 p. m.		0.37				0.16	0.31	0.45	0.52	0,56	0.60	0, 52	0, 63	*****		0.27	*****		
West, Fla Do	. 22	12:07 p. m.	1:55 p. m.	1.16	9:19 p. m. 12:12 p. m.	12:30 p. m.	0.01	0.29	0.47	6.56	0.59	*****			0, 64	0.71	0.73			****	-
Doxville, Tenn	. 7	12:05 p. m. 1:27 p. m.	1:28 a. m. 2:00 p. m.		12:26 p. m. 1:35 p. m.		0.01	0.16 0.16	0.32	0. 43	0.41	0.48	0.54	0.59	0.01	0.11					
Dorosse, Wis	13		7:10 p. m. 11:35 p. m.		6:07 p. m. 11:39 p. m.			0. 29 0. 10	0.40	0.35					*****		*****		*****		
ler, Wyoalle, Ill	. 22	**********	D. N a. m.	1.20	10:35 p. m.			0. 16	0.24	0.38	0.44				******	*****	*****	0.33	*****	*****	^1
Do	. 8	1:00 a. m.	4:00 a.m.	1.00	2:51 a. m.	3:18 a. m.	0.20	0.11	0. 24 6. 44	0.46	0.63 1.07	0.69	*****	*****						*****	
Do	. 19	3:55 a. m.	8:10 p. m. 5:40 a. m.	0.59	5:03 p. m. 4:04 a. m.	4:19 a. m.		0.08	0.26	0.50								0. 32			-
iston, Idaho ngton, Ky	1 1	1:53 p. m.	3:10 p. m.	0.59	1:56 p. m.	2:26 p. m.		0.29	0.49	0.58	0.63	0.70	0.79		0.55	0.61	0.76	0.85			
Do	. 2	3:00 p. m. 8:45 a. m.			4:03 p. m. 8:58 a. m.	4:57 p. m. 10:29 a. m.	0.02	0.08	0.14	0.17 0.68	0. 20 0. 75		0.32	200.00	1.17	1.27	1.32		2.12	2.30	-
oln, Nebre Rock, Ark	. 22-23		1:45 p. m.	3.89	8:22 a. m. 7:38 p. m.	8:52 a. m.	2.45	0.05	0.11	0.18	0.29	0, 39	0.51			*****		*****	*****		
Do Angeles, Cal	. 27	D. N. a. m.	7:25 a. m.	0.87	5:35 a. m.			6.20	0.48	0.55			*****				*****	0.01	*****	*****	
sville, Ky	. 25			0.47	∂:41 p. m.	11:19 p. m.	0.09	0.08	0.11	0.13	0. 15	0.16	0.21	0.33	0.55		0, 69	0.38	1.15	1.53	-
hburg, Va on, Ga	. 29	8:10 p. m.		0.84																	
uette, Mich	11	12:55 a. m.	D. N. a. m.	0.40	1:04 a. m.	1:19 a. m.	*****	0.05	0.28	0.35			*****	*****				0, 36			
phis, Tenn Do	. 2	7:30 p. m. 6:50 a. m.			7:35 p. m. 7:01 a. m.	7:50 p. m. 7:27 a. m.	0.01	0. 12 0. 12	0.23	0.35	0.45	0.54	******		*****		*****				
dian, Missaukee, Wis	. 9			0.28									*****		*****	*****		0.26	1	*****	
neapolis. Minn	. 2	4:15 p. m.	5:10 p. m.	1.12	4:25 p. m.	5:04 p. m.		0.30	0.35	0.64	0.87	0.98	1.00	1.06				0.24	******	*****	
ile, Alaena, Utah	. 19			0.81	0.00			0. 27	0.47	0.57	0.65	******	0.81		0.91		1.00	. 0.37			
tgomery, Ala rhead, Minn	. 5	6:21 p. m.	8:30 p. m.	0.26	6:23 p. m.	**********									*****	*****		0.23			-
nt Tamalpais, Cal. nt Weather, Va	. 6	3:54 p. m.	4:15 p. m.	0.14	3:56 p. m.	4:06 p. m.		0. 19	0.34	******				*****	*****					*****	-
tucket, Mass	. 19						*****					-					1	0.08			
Haven, Conn Orleans, La	91	3:00 a.m.	3:30 a.m. 8:30 p.m.	0.35	3:06 a.m. 3:34 p.m.		0.02	0.28	0.32	0.52	0.55			*****			*****			*****	
YORK, N. Y	1	2:30 p. m.		1.17			*****	0.26	0.39	0.53											. 1
olk, Vahfield, Vt	9798	7:20 p. m. 8:50 p. m.	D. N. a. m.	1.15	7:27 p. m. 11:32 p. m.	11:52 p. m.	0.32	0.20	0.31	0.38	0.41										
th Head, Wash th Platte, Nebr	93			0.61			*****	*****									****	0.17	*****		-
ha, Nebr	. 6	**********	**********	0.24 0.77		**********		*****									****	0.56	*****		
ego, N. Ystine; Tex		5:10 p. m.		0.42	5:38 p. m.	5:51 p. m.	0.15	0. 15	0.31												
		11:52 p. m.	2:50 a. m.	0.51	12:02 a.m. 4:22 a.m.	12:19 a. m.	0.01	0, 20 0, 23	0.29	0.41	0.44										
Dosacola, Fla	13	12:05 a. m.	5:45 a. m.	0.92	12:57 a. m.	1:35 a. m.	0.02	0.14		0.36	0.46	0.45	0, 61	0.77					*****		
Do	. 2	12:65 a. m.	12:45 a. m. 9:40 a. m.	0.53	12:14 a.m.	12:28 a. m. 7:45 a. m.	0.01	0.20	0.57	0. 62		*****						1			

Table II.—Accumulated amounts of precipitation for each 5 minutes, etc.—Continued.

Stations.		Total duration.		amount recipita-	Excess	before ive be-	Depths of precipitation (in inches) during periods of time indicated.															
	Date.	From-	То-	Total an of prec tion.	Began-	Ended-	Amount excess gan.	5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min	
Peoria, Ill Philadelphia, Pa	4	6:00 p. m.	7:10 p. m.	0.85	6:07 p. m.	6:31 p.m.	0.02	0.07	0.33	0.66	0.96	1.01						* T.				
Phoenix, Ariz Pierre, S. Dak Pittaburg, Pa	12 22 8	7.06 p.m.	9:43 p. m.	T. 0, 91 1, 82	7:08 p. m.	7:58 p. m.	0.01	0.21	0.38	0.60	0.77	0. 35	1.07	1.23	1. 37	1.48	1.60	0.25		*****		
Do Pocatello, Idaho Point Reyes Light, Cal Port Huron, Mich	16-17 28 5-6	6:07 a. m.	9:10 a.m.	0. 20 0. 02 0. 80 0. 59 0. 56 n. 0. 88 0. 10 0. 34 n. 1.09 n. 0. 47 0. 37 0. 23 0. 39 n. 1.78	6:55 a. m.	7:20 a. m.	0.01	0. 21	0.48	0.63	0.76	0.88		4 = 4 = 4				0.15 0.01 0.49		*****	****	
Portland, Me Portland, Oreg Providence, R. I	13 16 6				0.15	9:40 p. m.	0.01	0.05	0.99	0.30	0.42	0.52				*****		0.41 0.21	*****	*****		
Pueblo, Colotaleigh, N. Ctapid City, S. Dak	19 1 21		11:45 p. m.		9:15 p. m.			0.05 0.05 0.33	0.14	0.39		0, 52	0.60	0,80	0.92	0.99		0, 07 0, 32			****	
tapid City, S. Dak ted Bluff, Cal teno, Nev	15 15	5 1:48 p. m. 711:23 p. m.	3:55 p. m. D. N. p. m.		1:59 p. m. 11:27 p. m.	2:44 p. m. 11:37 p. m.	0.01				0.40			0.80	0.92	0.99		0.09		*****	****	
ichmond, Vaochester, N. Y	31-1	11:25 p. m. 5:04 p. m.	3:00 a. m. 6:30 p. m.		0.39	12:12 a. m. 5:07 p. m.	1:48 a. m. 5:22 p. m.		0.08 0.23	0, 16 0, 42	0.29		0.57	0. 62	0.63	0.67	0.74	0, 85	0, 30 1, 00	1. 22	1.48	
oseburg, Oregoswell, N. Mexacramento, Cal	19 13 14			0.52 0.29 0.09													*****	0.32 0.16 0.03		*****	****	
t. Louis, Mo Do	3-4	10:10 p. m. 11:00 p. m.	11:58 a. m. 7:30 a. m.	3.07	\$12:17 a.m. 9:44 a.m. 4:54 a.m.	12:58 a.m. 10:08 a.m. 5:11 a.m.	0.56	0, 06 0, 12 0, 13	0, 12 0, 32 0, 30	0.30 0.37 0.41	0, 45 0, 44 0, 45	0, 76 0, 49	0.98	1. 12	1.20	1.21	* * * * * *	*****	*****	*****	****	
t. Paul, Minn	2 15 14 30 3 15 14 15 21 24 10–11	4:20 p. m.	6:20 p. m.	0.61 0.37 0.43	5:02 p. m.	5:12 p. m.	0.01	0.34	0.52					*****			*****	0. 19 0. 42		*****	****	
an Antonio, Texan Diego, Calandusky, Ohioan Francisco, Cal				0, 17 0, 99 0, 04 0, 07 0, 28 0, 38 0, 80 1, 08 0, 54				0.14			0.49						*****	0.17 0.40 0.04	*****	*****	****	
an Jose, Cal an Luis Obispo, Cal anta Fe, N. Mex ault Ste. Marie, Mich					2:25 a. m. 3:51 p. m.							*****	******				******	0.06 0.11 0.37	******		*****	
Do		9:30 p. m. 3:08 p. m.	n. D. N. a. m. 1 n. 4:30 p. m. 0			2:50 a.m. 4:13 p.m.			0.34	0.63 0.34		0.91						0.45	*****	*****		
Doattle, Wash	25 16	3:19 p. m. 3:50 a. m.	3:55 p. m. 6:40 a. m.	0.48 1.59 0.27	3:31 p. m. 5:08 a. m.	3:47 p. m. 6:08 a. m.	0.01	0. 14 0. 12	0, 26 0, 20	0.42	0,46	0.54	0.84	0.90	0, 96	0.96	1.00	1. 21 0. 14 0. 44	*****			
heridan, Wyohreveport, Laoux City, Iowa	27 4 22 28 16	6:33 p. m.	8:00 p. m.	1.79 0.01 0.46 2.10 0.66	7:16 p. m.	7:30 p. m.	0, 35	0, 33	0.74	0.89		0,65	0,80	0, 95	1.01	*****		0.29	*****	*****		
Do outheast Farallon, Cal. ookane, Wash		5:00 a. m.	12:15 p. m.		9:59 a. m.	10:39 a. m.	0. 24 0. 01 T. 0. 06	0.11	0. 16	0.31 0.26 0.37	0. 41 0. 46 0. 33 0. 37 0. 61	0.50	0.30			* ****		T. 0.25		******		
Do	7-8 24 2	D. N. p. m. 4:14 a. m.	5:25 a. m. 5:50 a. m.		\$12:22 a. m. \$2:55 a. m. \$4:17 a. m. \$11:18 a. m.	12:45 a. m. 3:37 a. m. 4:56 a. m. 11:38 a. m.		0. 15 0. 17 0. 22	0. 18 0. 34 0. 42			0.37 0.37	0.47 0.37	0, 63 0, 55	0. 67 0. 60	0.74		*****	*****		*****	
Do	26 6 16	11:15 a. m. 7:38 p. m. 9:05 p. m.	10:32 p. m. 0.53 D. N. a. m. 1.40	0.53	8:54 p. m. 1:08 a. m.	9:04 p. m. 1:42 a. m.		0.30 0.27	0, 44	0.56	0.61	0.72	0.88	1.00				0.27				
acoma, Wash ampa, Fla atoosh Island, Wash aylor, Tex	23 29 12	1:50 p. m.	4:30 p. m.	0. 27 1. 08 1. 74	1:57 p.m.	2:27 p. m.	т.	0.29	0.61	0.88	1, 12	1.39	1.61	*****	*****			0. 26 0. 22		*****		
homasville, Ga Do oledo, Ohio	1 8 5	12:20 p. m. 4:25 p. m.	2:30 p. m. 7:15 p. m.	m. 0.96	0.96 0.97	12:26 p. m. 4:33 p. m.	12:57 p. m. 5:09 p. m.	0.02 0.01	0. 29 0. 17 0. 08	0. 29 0. 09	0.39	0.49	0.58 0.46	0.68 0.75	0.70 0.90	0.92			0.21			*****
onopah, Nevopeka, Kanalentine, Nebr	14 2 3	2:45 a. m.	12:10 p. m.	0.56 2.06 0.25	5:27 a.m.	6:00 a.m.	0.46	0.18	0.32	0.54	0.69	0.78	0.87	0.93		******	*****	0.24	******	******	*****	
icksburg, Miss Do alla Walla, Wash	27 15	1:12 p. m. 3:33 p. m.	2:00 p. m. 4:22 p. m.	0.74 0.65 0.53	1:27 p. m. 3:42 p. m.	1:46 p. m. 3:57 p. m.	0. 05 0. 03	0.11 0.28	0, 45 0, 51	0, 62 0, 50	0.68							0, 28				
ashington, D. C ichita, Kans illiston, N. Dak	1 4 5	1:15 p. m.	3:50 p.m.	0.96 0.55 0.65	1:48 p. m.	2:06 p. m.	0. 12	0.15	0.42	0.74	0.78			******		*****		0, 55 0, 02	*****			
ilmington, N. C innemucea, Nev ytheville, Va	7 15 27	4:10 p. m. 1:30 p. m.	6:30 p. m. 4:25 p. m.	0, 80 0, 42 2, 51	4:20 p. m. 1:32 p. m.	4:32 p. m. 3:22 p. m.	0.01	0.17	0.34	0.38	0.74	0.99	1. 15	1.21	1. 23	1.24	1.24	0.14 1.37	1.78	2.22	2.46	
ankton, S. Dak Do Do (ellowatone Park, Wyo.	4 7 22 13–14	4:45 p. m. 8:05 p. m. 1:15 a. m.	6:15 p. m. 9:15 p. m. 9:30 a. m.	0, 85 0, 86 2, 19 0, 23	5:14 p. m. 8:14 p. m. 8:21 a. m.	6:39 p. m. 8:39 p. m. 9:11 a. m.	0. 01 0. 01 0. 85	0.16 0.09 0.07	0, 28 0, 34 0, 24	0, 53 0, 53 0, 46	0.61 0.70 0.72	0, 76 0, 77 0, 99	1.07	1.11	1. 16	1.25	1.31					

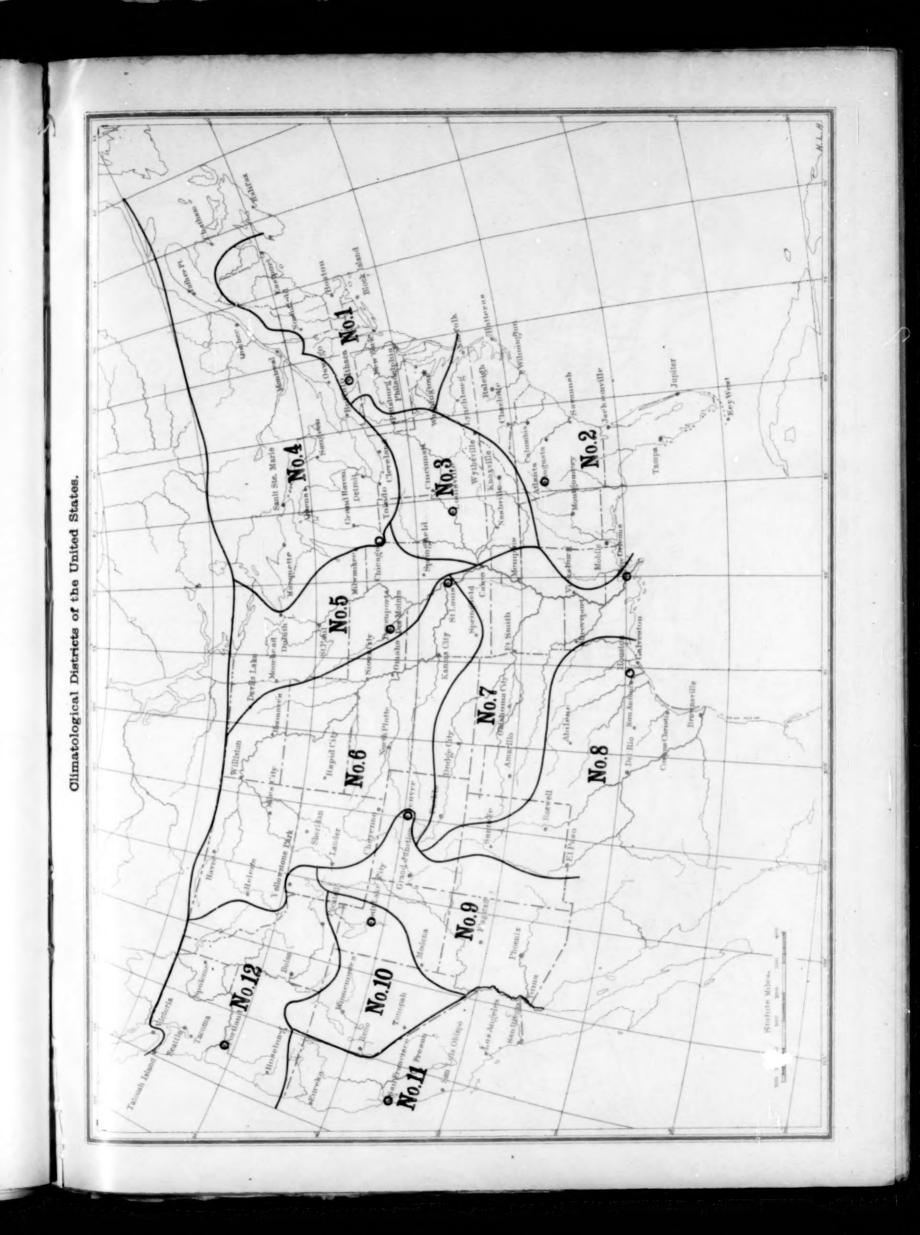
^{*}Partly estimated according to stick measurements.

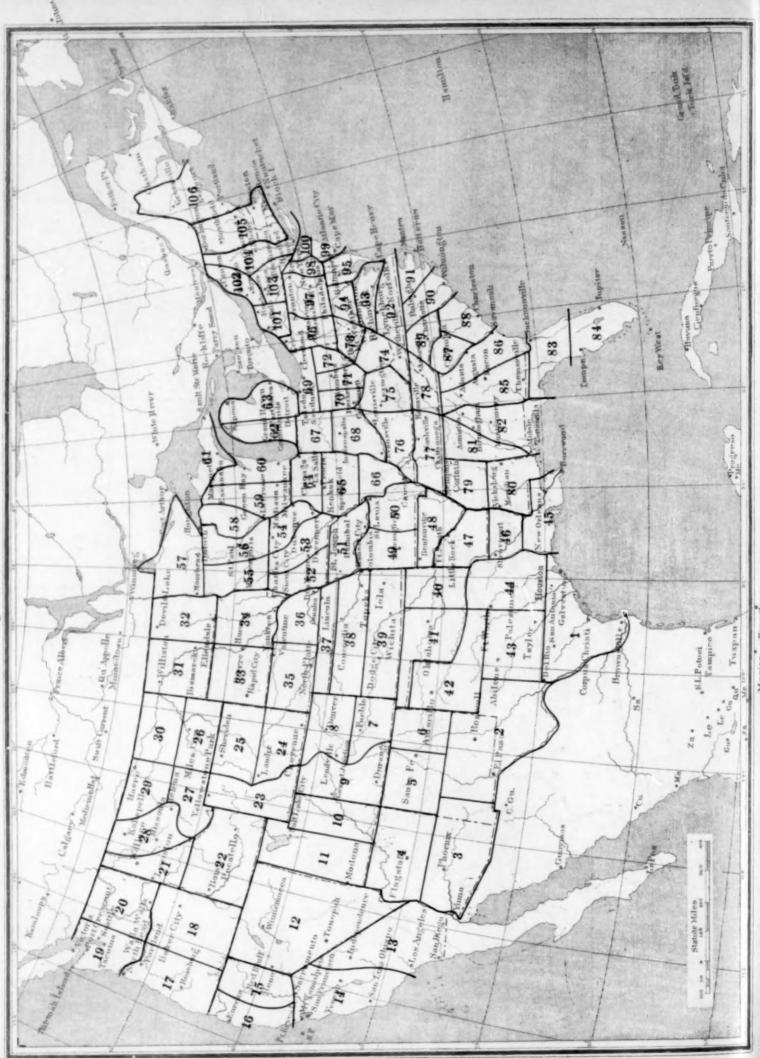
120 min.

Table III.—Data furnished by the Canadian Meteorological Service, September, 1910.

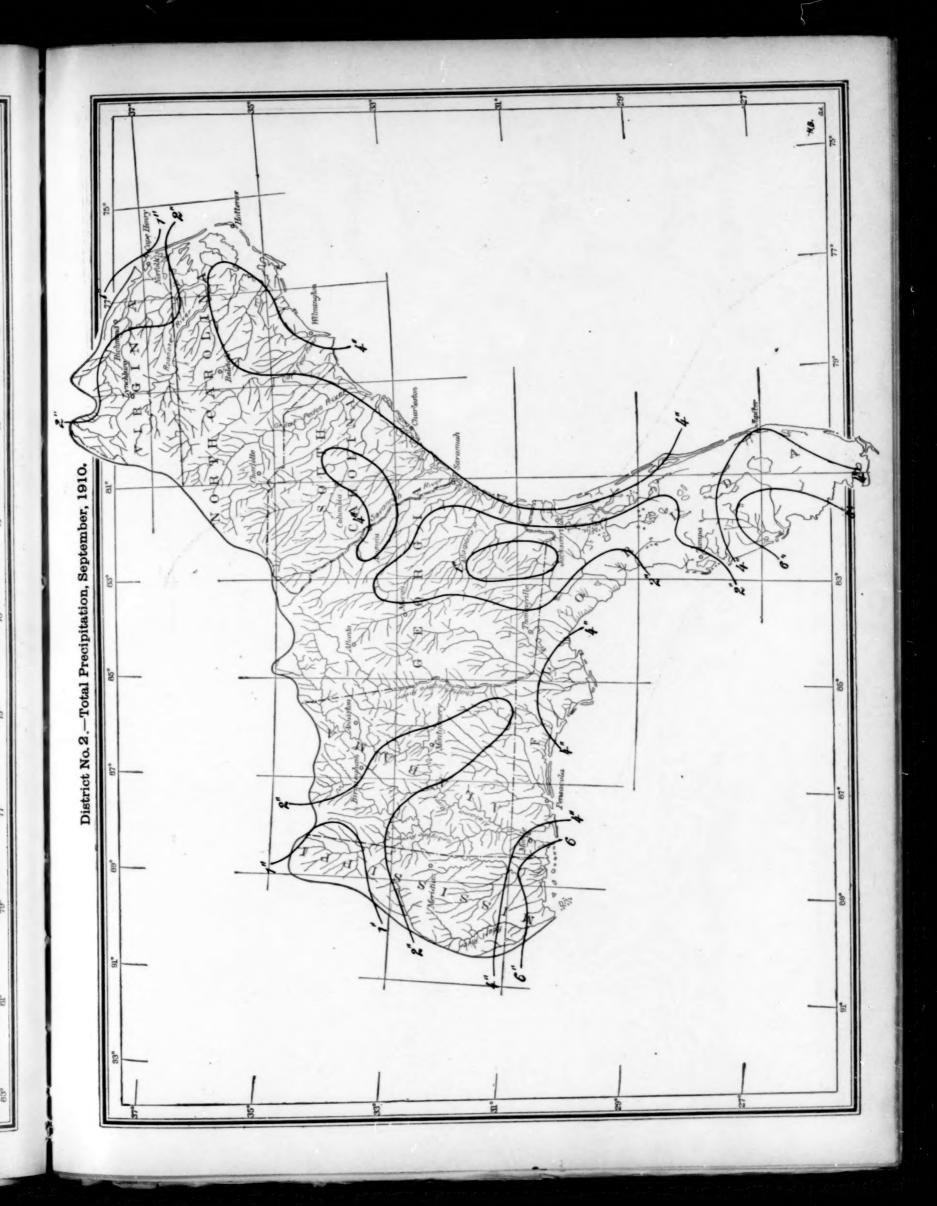
Stations.	Pressure.			Temperature.				Precipitation.				Pressure.			Temperature.				Precipitation.		
	Actual, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Departure from normal.	Mean.	Departure from normal.	Mean maximum.	Mean minimum.	Total.	Departure from normal.	Total snowfall.	Stations.	Actual, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Departure from normal.	Mean.	Departure from normal.	Mean maximum.	Mean minimum.	Total.	Departure from normal.	Total anomefull
St. Johns, N. F. sydney, C. B. I. Halifax, N. S. Grand Manan, N. B. Farmouth, N. S. Charlottetown, P. E. I. hatham, N. B. "ather Point, Que uebec, Que dontreal, Que stonecliffe, Ont.* Ontawa, Ont Kingston, Ont Coronto, Ont Orottaney, Ont ort Stanley, Ont outhampton, Ont outhampton, Ont	29. 90 30. 05 29. 97 30. 04 30. 02 30. 03 30. 07 30. 01 29. 87 29. 87 29. 88 29. 71 28. 70 29. 46 29. 82 29. 71 28. 70 29. 45 29. 45	30. 09 30. 07 30. 09 30. 09 30. 07 30. 09 30. 03 30. 06 30. 07 30. 07 30. 15 30. 09 30. 08 30. 02	Ina. +.07 +.08 +.03 +.06 +.04 +.09 +.05 +.05 +.05 +.01 +.01 +.01 +.02 +.02 +.03	58. 0 58. 6 56. 9 56. 3 57. 2 55. 0 49. 5 54. 0 56. 8 51. 6 54. 8 58. 1 59. 9 40. 0 59. 2	- 0.2 + 1.5 + 1.0 + 0.8 + 0.2 - 0.1 - 0.4 - 0.9 - 1.6 - 4.1 - 2.6 + 0.9 - 1.3 - 0.3	60. 6 65. 7 67. 5 63. 2 64. 4 64. 7 65. 1 57. 6 62. 4 64. 0 62. 4 64. 0 62. 4 64. 0 69. 8 60. 6 68. 8	47. 0 50. 4 49. 8 50. 5 48. 1 49. 7 44. 8 41. 4 45. 8 49. 6 40. 9 45. 2 49. 3 50. 0 37. 4 49. 7	3.38	Ins0.64 -0.72 +0.22 +1.94 +0.37 -0.91 -1.05 +0.09 -0.07 +0.03 -2.56 -0.73 -1.10 +0.64 +1.61 +0.27 -0.47	Ins.	Parry Sound, Ont Port Arthur, Ont. Winnipeg, Man. Minnedosa, Man. Qu'Appelle, Sask. Medicine Hat, Alberta. Swift Current, Sask. Calgary, Alberta. Banff, Alberta. Banff, Alberta. Prince Albert, Sask. Battleford, Sask. Kamloops, B. C. Victoria, B. C. Dawson, Yukon. Hamilton, Bermuda.	Ins. 29.40 29.32 29.19 28.19 27.76 27.77 27.48 26.49 25.47 27.74 28.42 28.28 29.96 25.75 29.96	30. 01 30. 01 30. 04 30. 05 30. 03 30. 06 30. 03 29. 98 30. 02 29. 96		55. 7 53. 6 54. 3 51. 2 49. 8 56. 0 52. 2 49. 7 46. 5 50. 4 48. 2 51. 6 58. 2 56. 6 43. 1 44. 3 78. 5	+ 1.8 + 0.7 - 1.3 + 1.0 - 0.9 - 0.1 + 0.7 + 1.1 - 0.2 - 0.2 + 0.8 + 1.8 - 3.6	65. 1 34. 2 65. 2 63. 2 61. 8 67. 3 63. 9 61. 4 58. 6 63. 9 70. 7 64. 9 52. 5 54. 5	46. 3 43. 1 43. 4 39. 1 37. 9 44. 9 538. 1 34. 4 37. 0 36. 5 39. 3 45. 7 48. 2 33. 7 34. 9	2. 75 1. 48 0. 46 0. 54 0. 88 1. 50 1. 06 2. 01 0. 79 1. 46 0. 43 1. 59 2. 17 1. 34	-0.49 +0.21 -0.42 -0.57 -0.74	

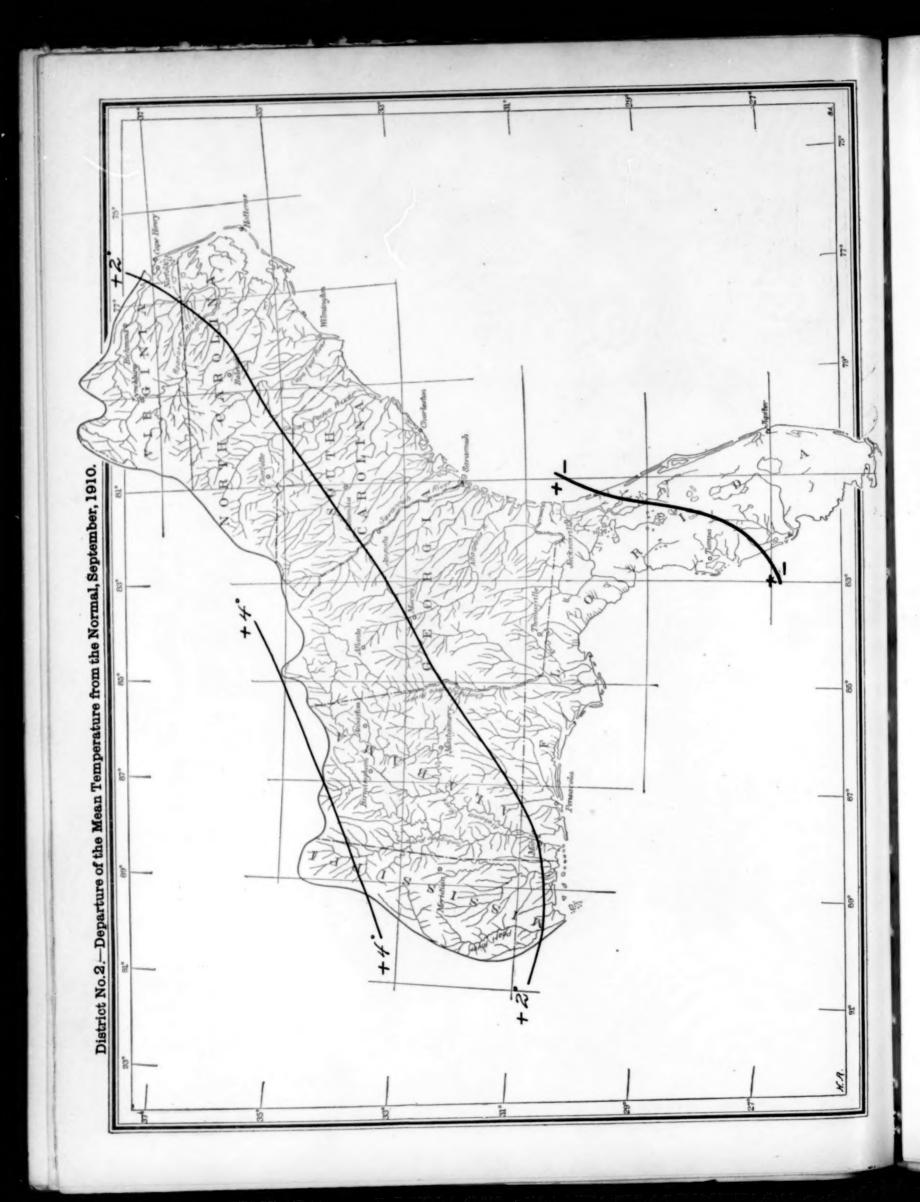
^{*} Name changed from Rockliffe.

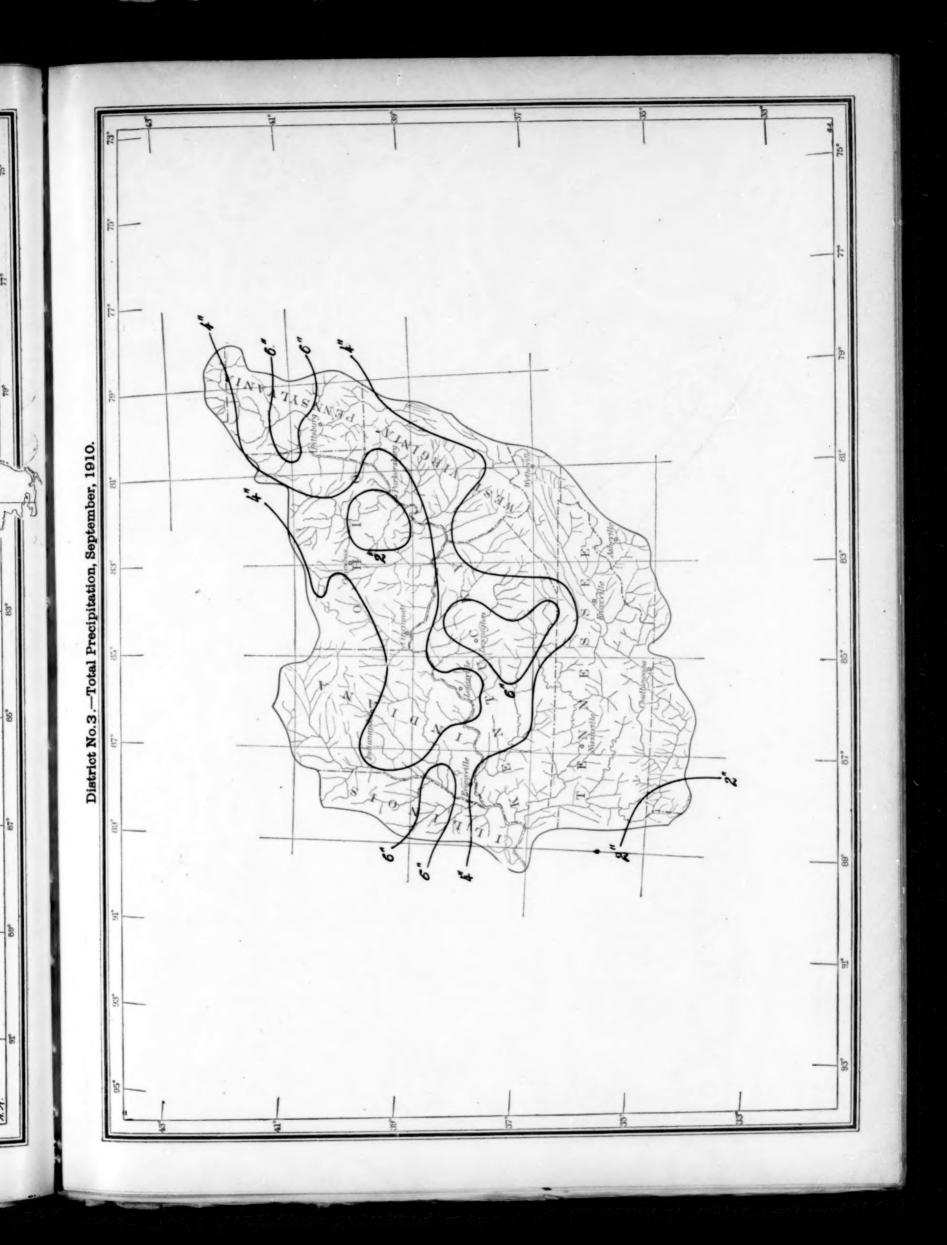


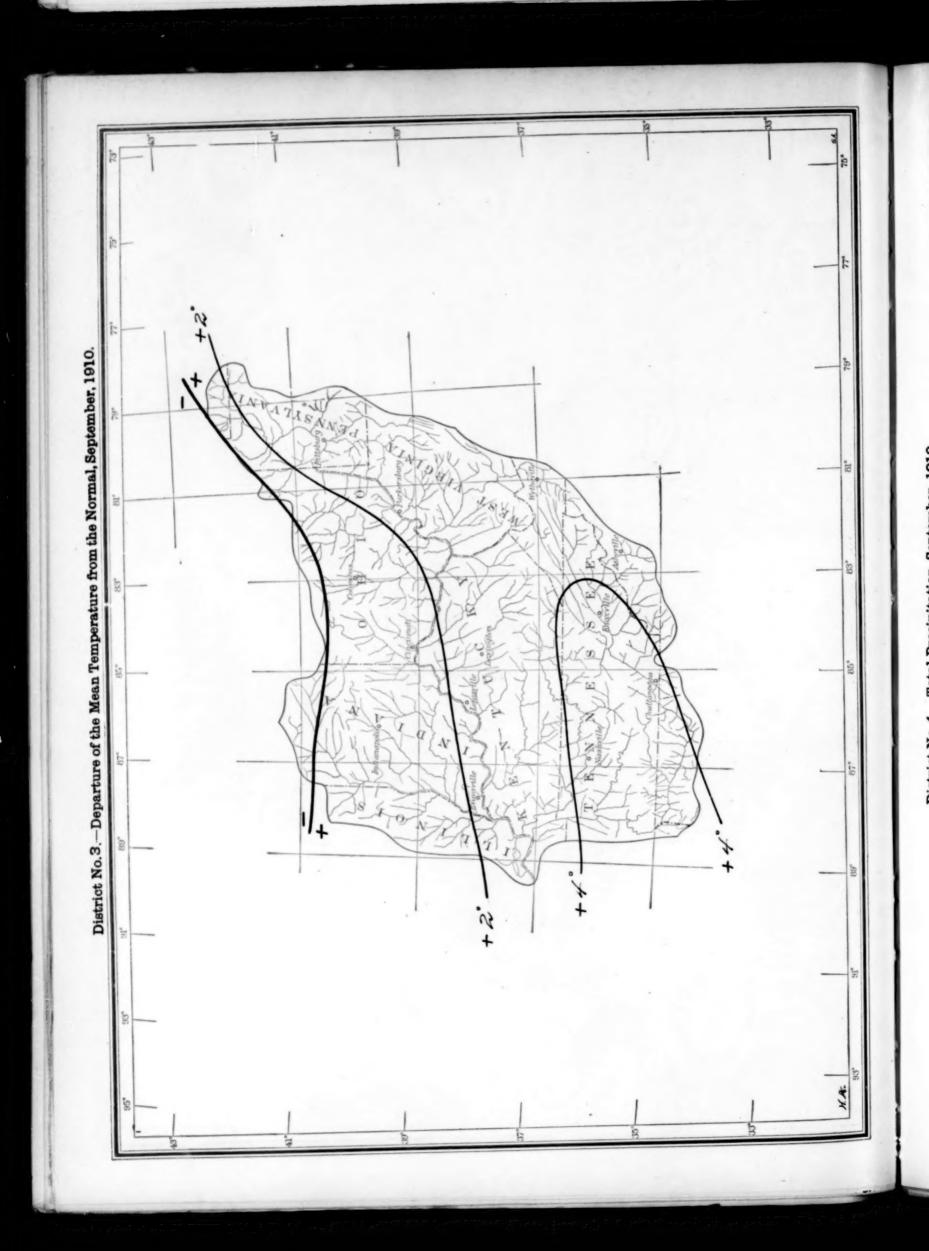






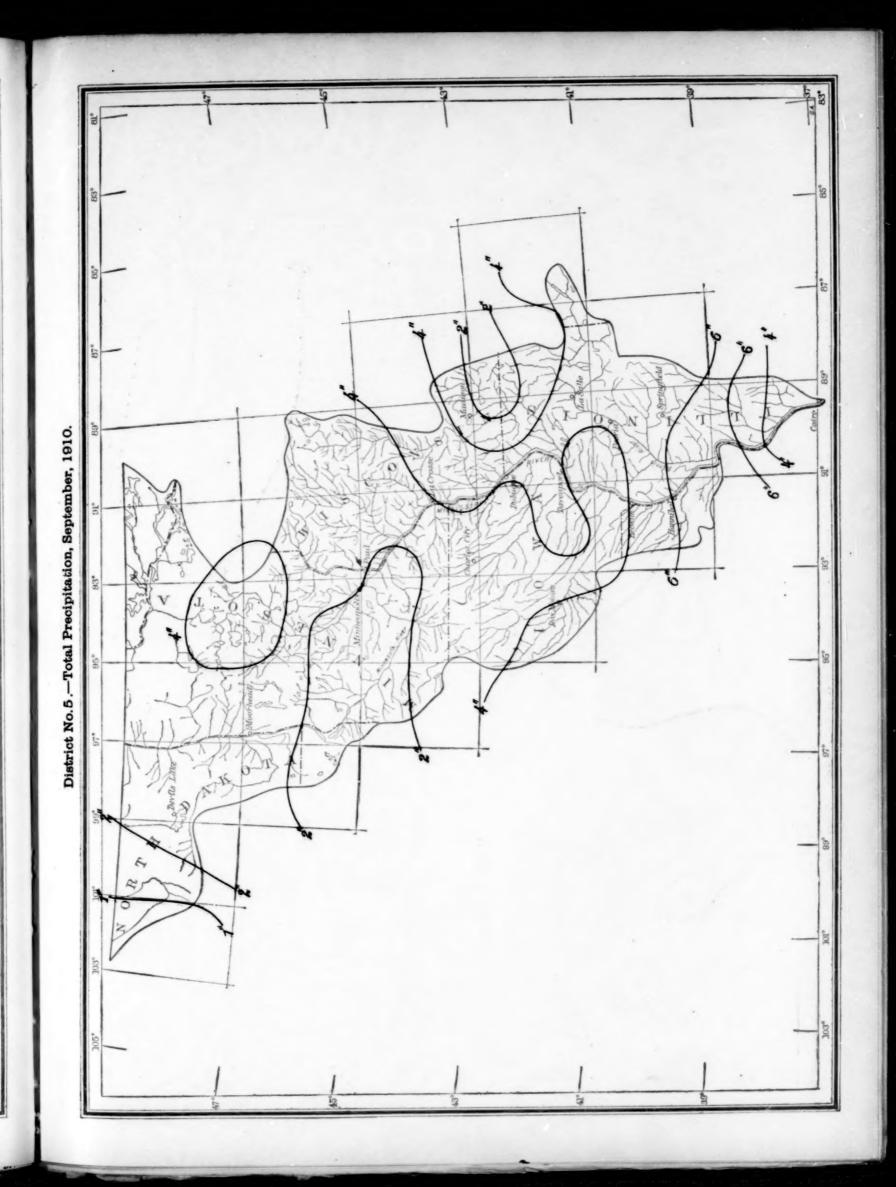






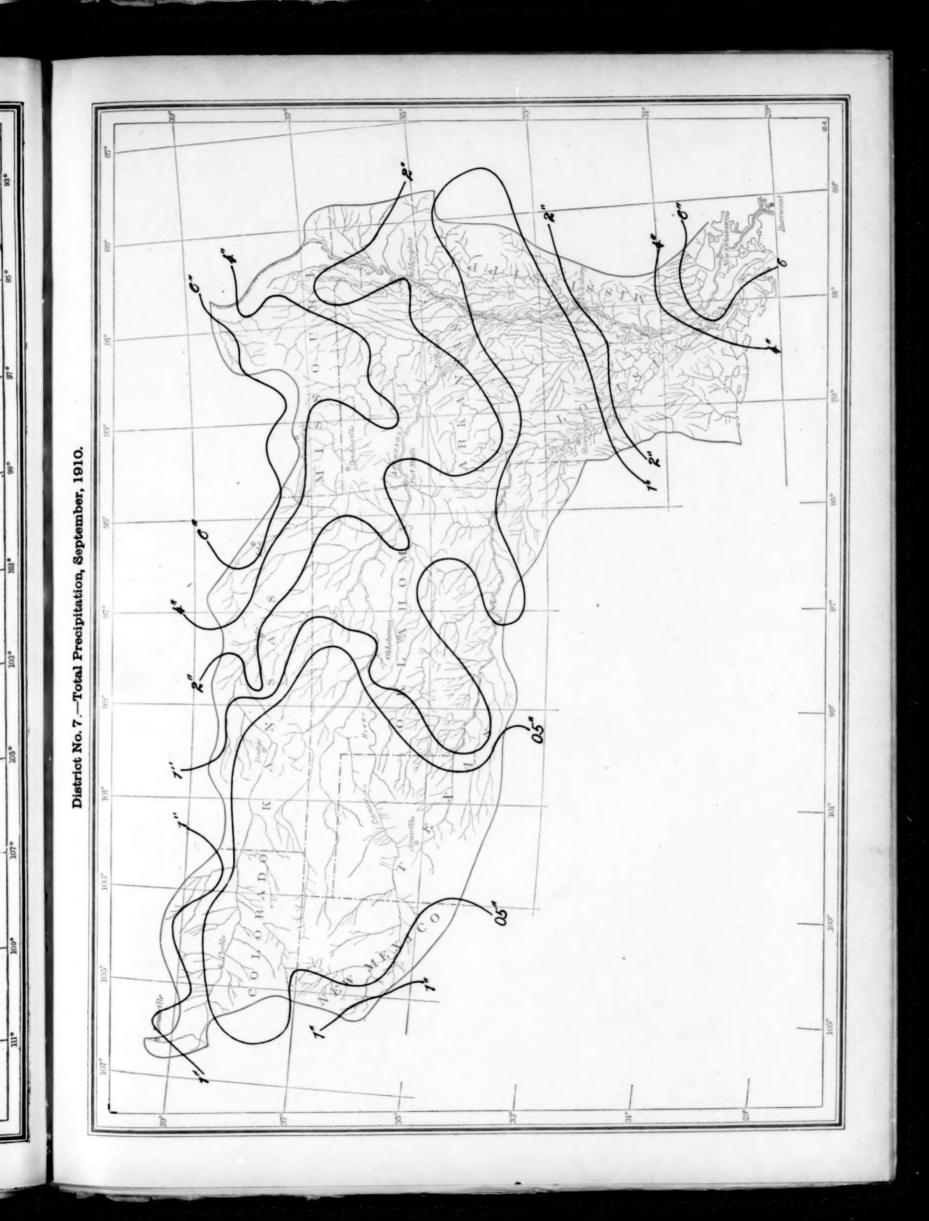
District No. 4.-Total Precipitation, September, 1910. HURON LAKE

District No.5.—Total Precipitation September 1910.





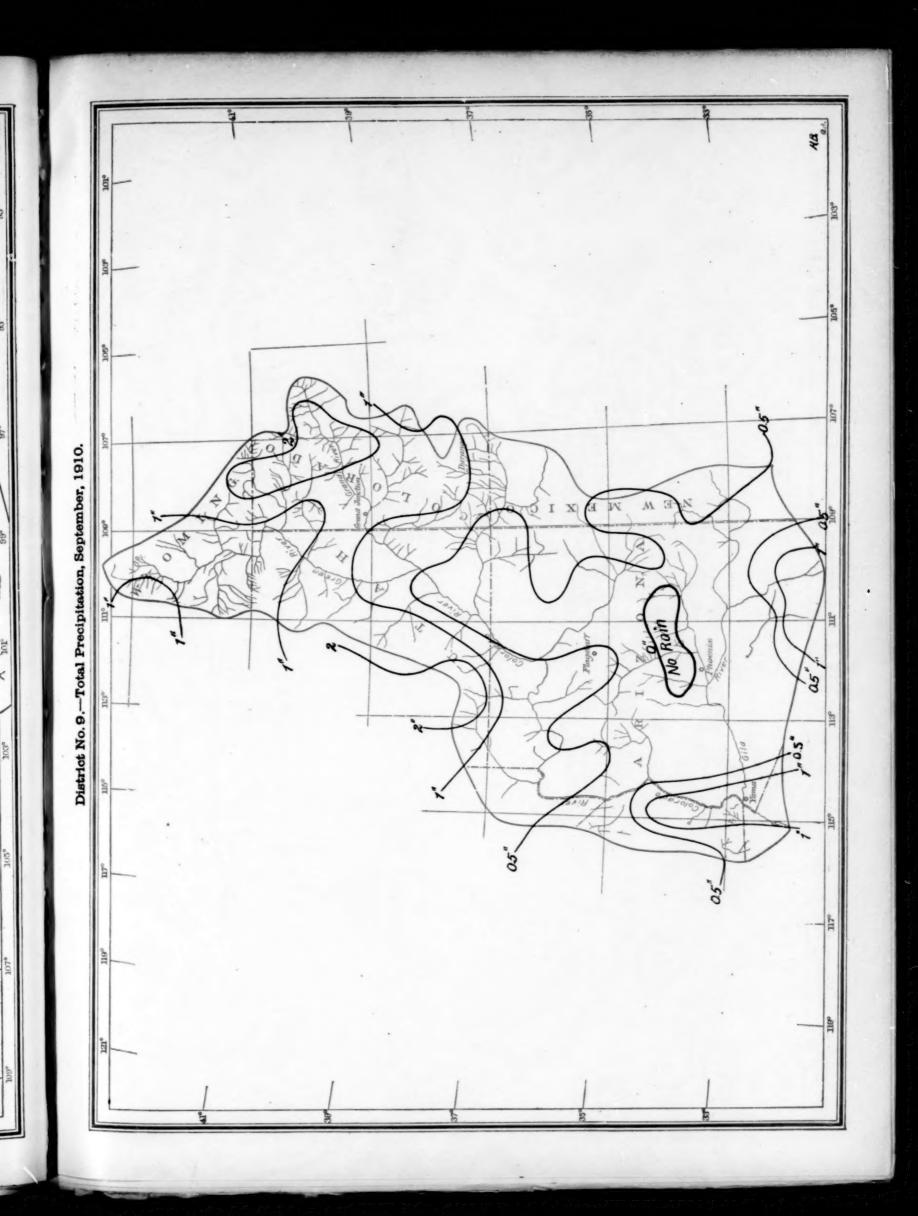
District No. 7 -Total Practinitation Sentember 1910

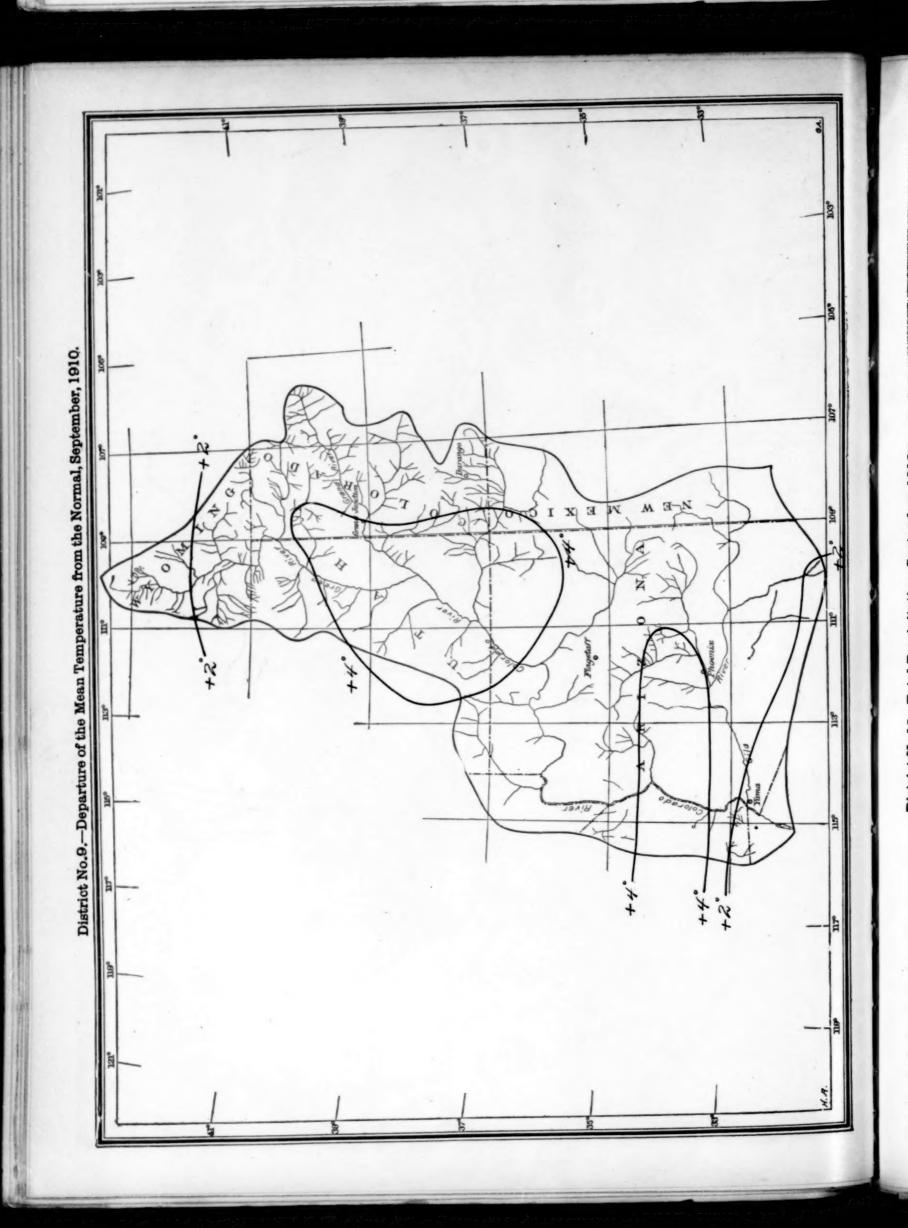


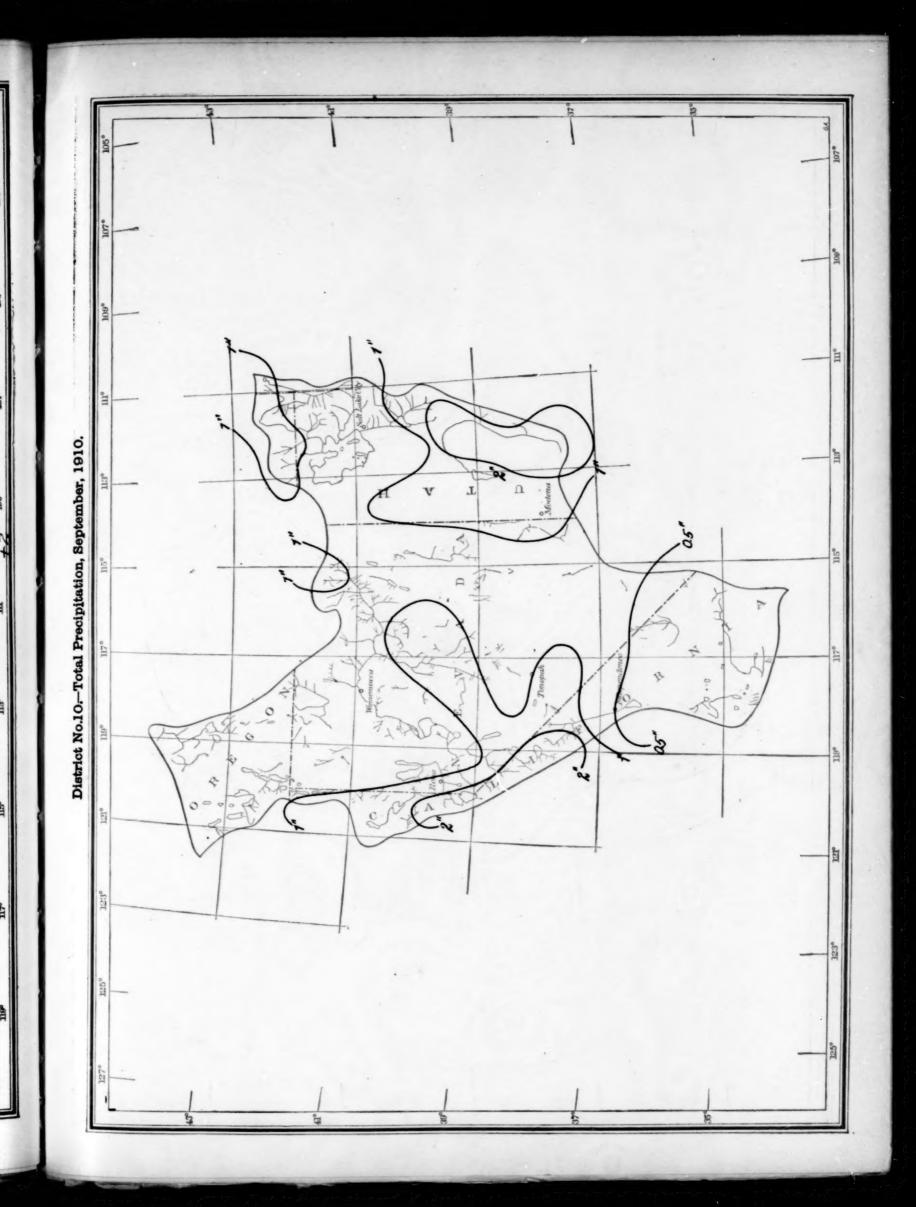
District No. 8.—Total Precipitation. September, 1910.

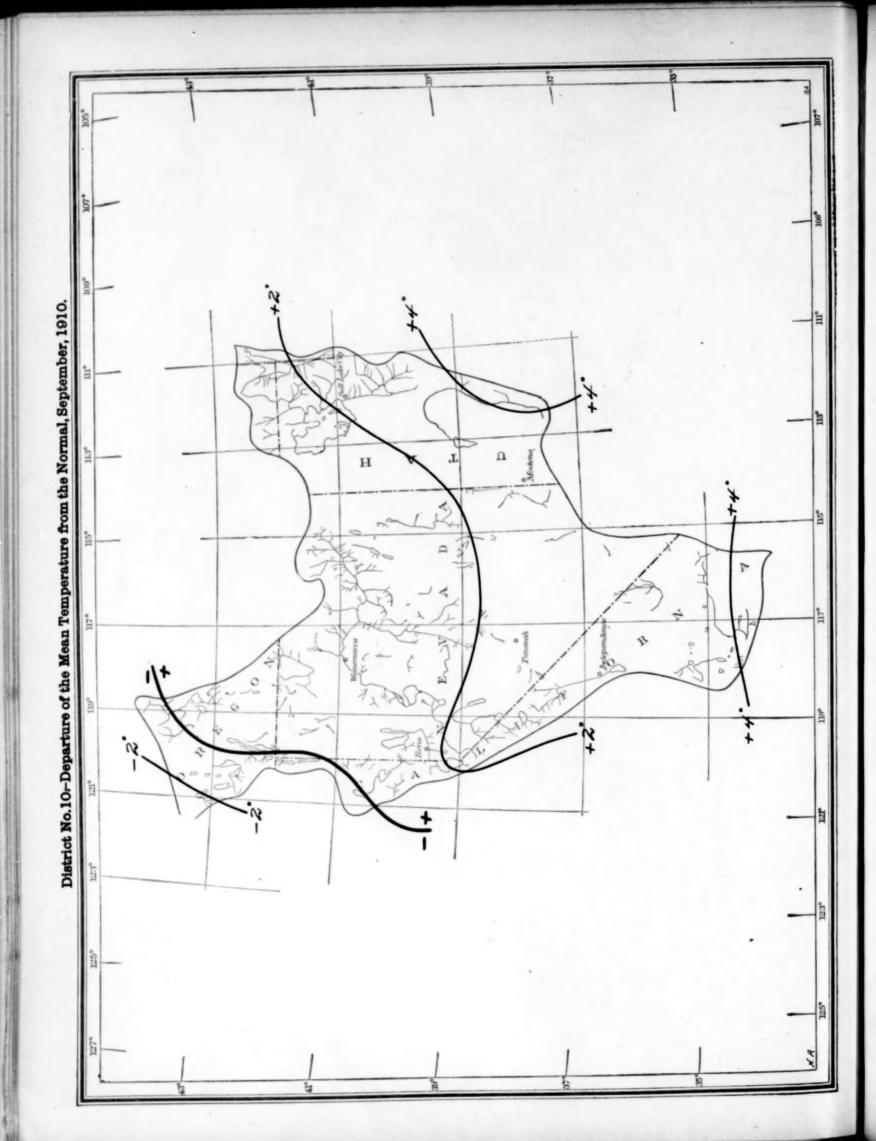




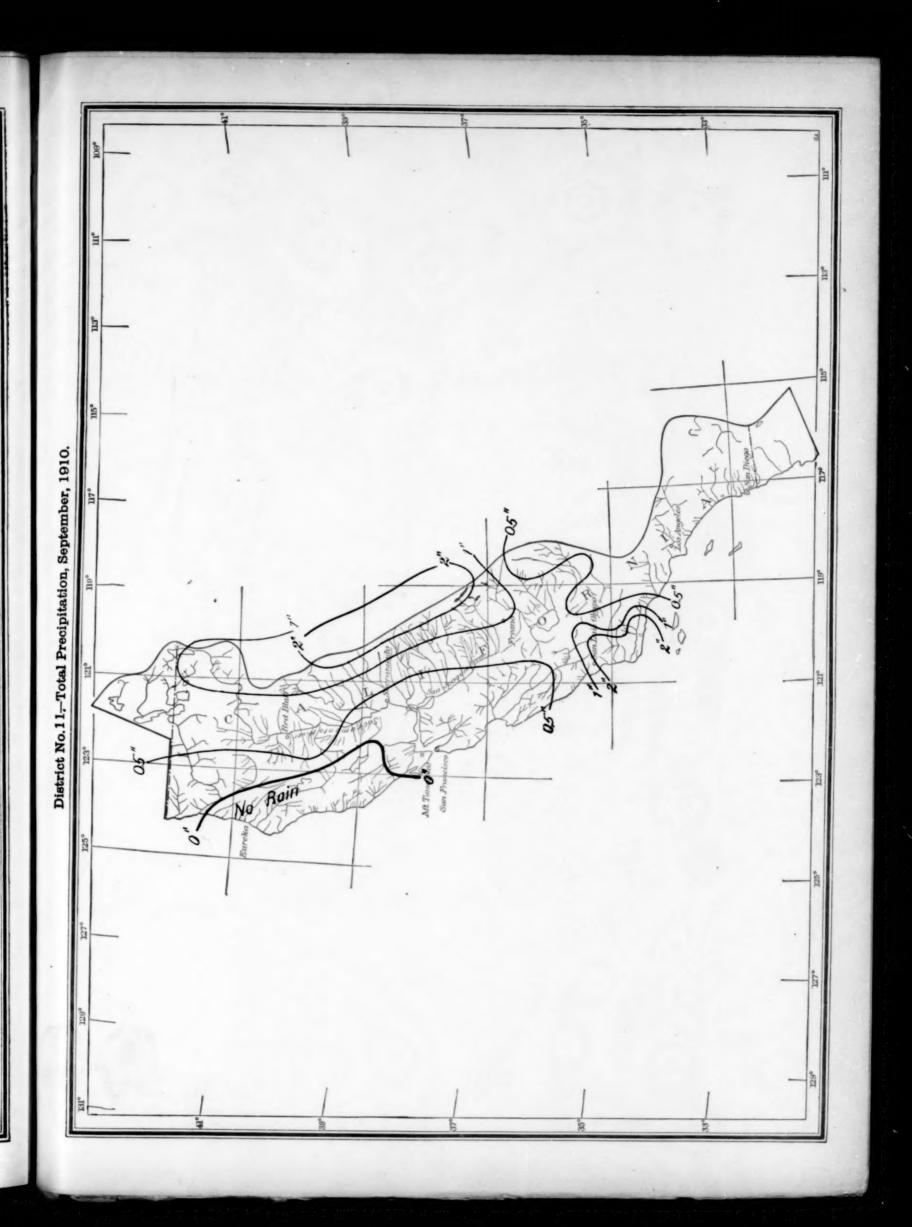


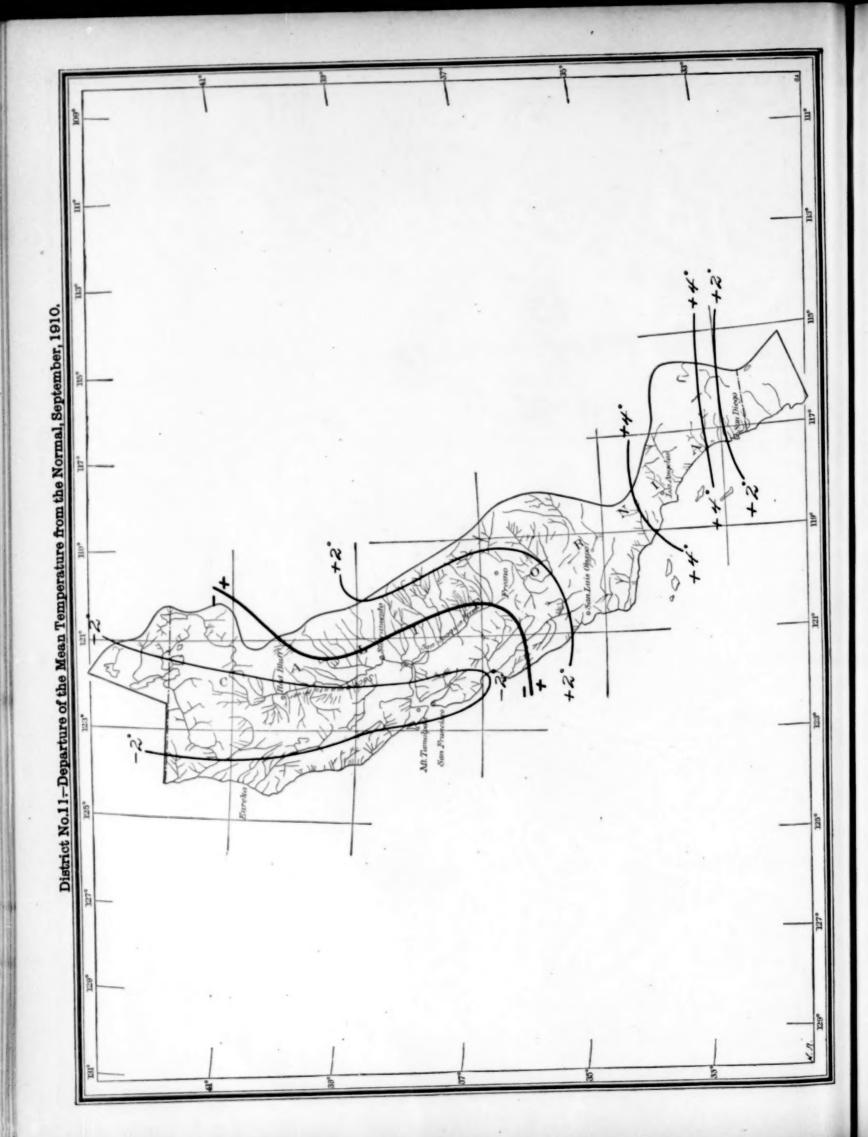


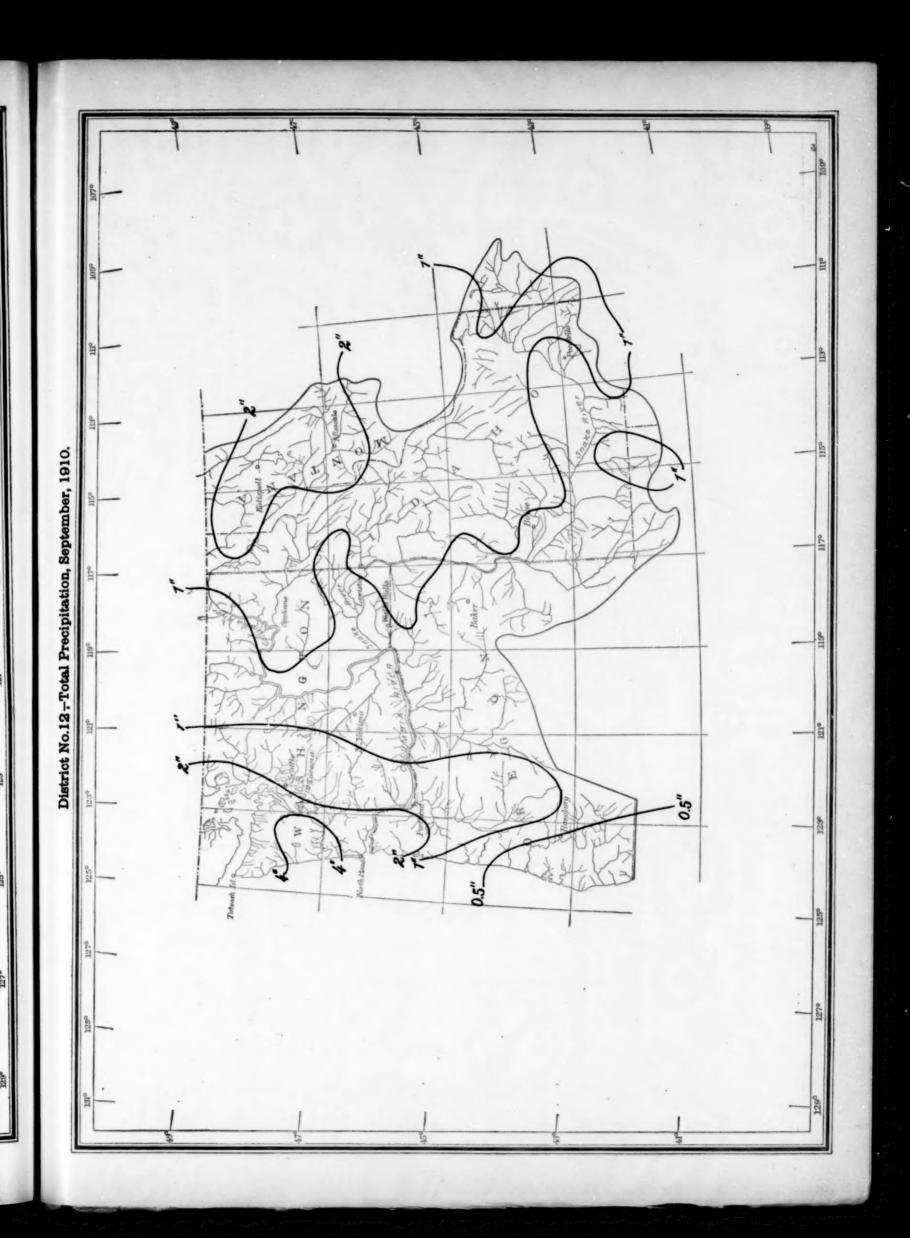




District No.11,-Total Precipitation, September, 1910.







District No.12-Departure of the Mean Temperature from the Normal, September, 1910. 1.00 N

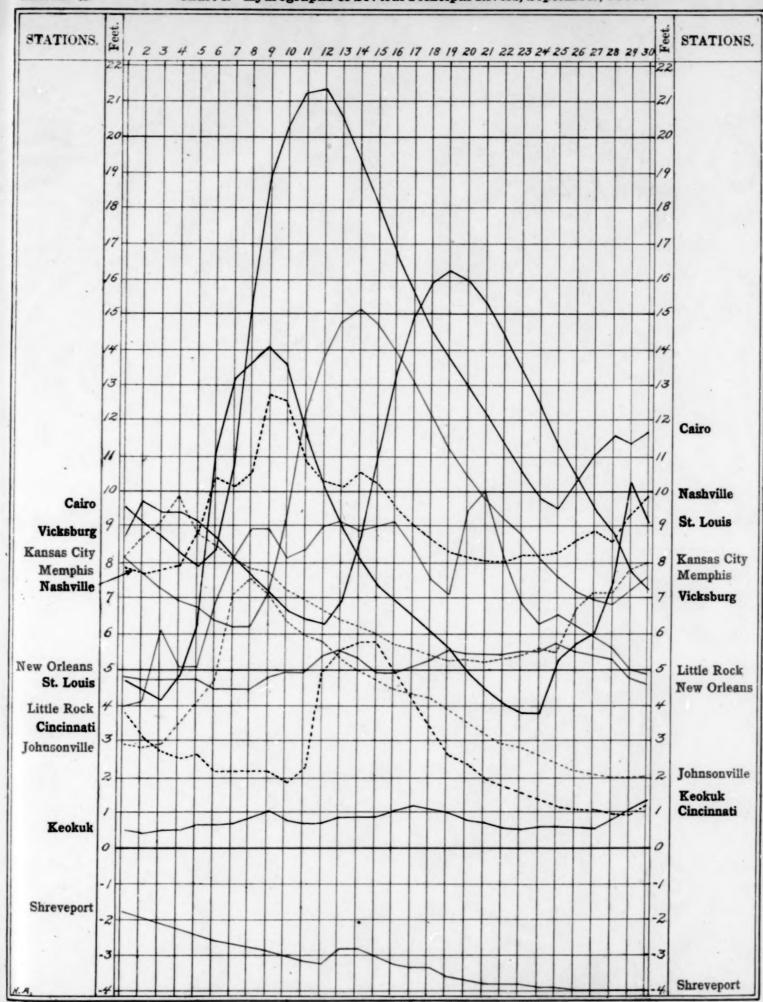


Chart III. Tracks of Centers of Low Areas, September, 1910.

XXXVIII-64.

Mexico Vers Cruz



Vera Cruz

Mexico

